THE Soybean Digest

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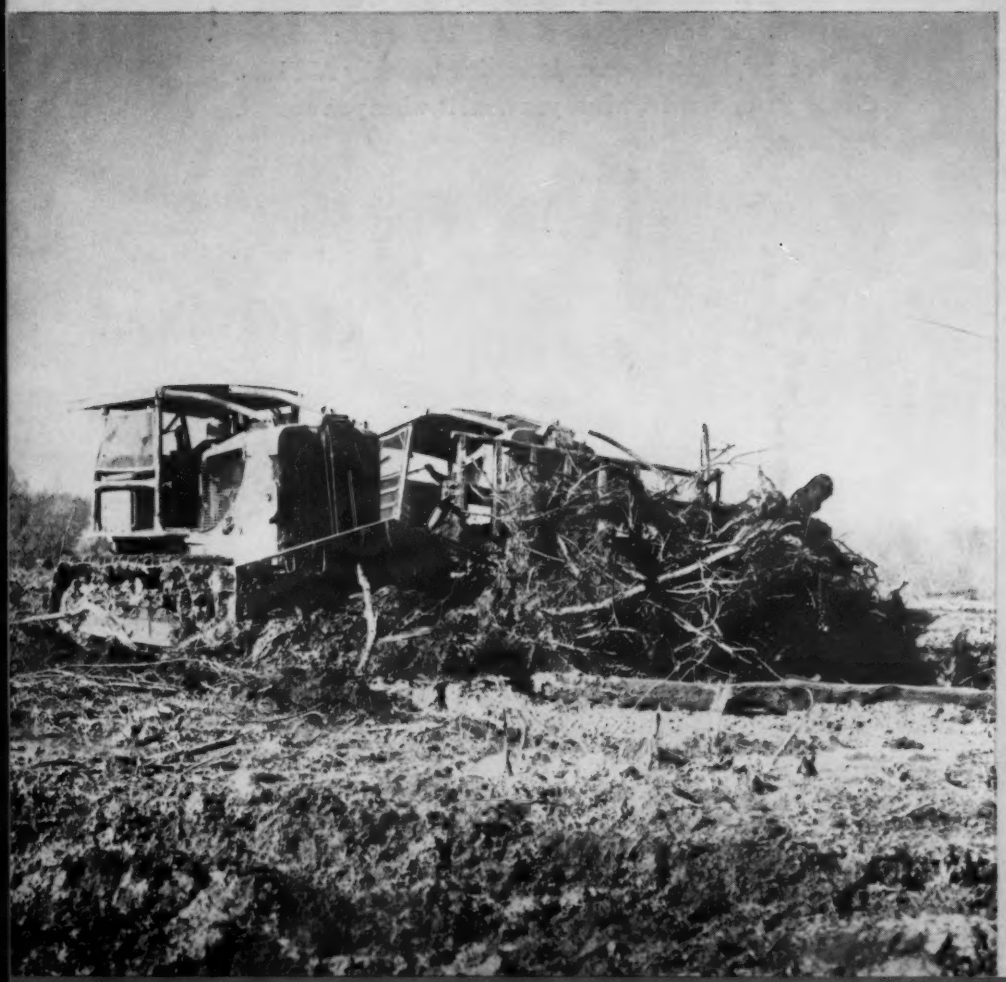

Soybeans and Soil Fertility

Clearing bottom land for soybeans in southern Illinois, See page 23

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safeguarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the members of the Association.

EDITOR'S DESK

. . . By GEO. M. STRAYER

ARE DIRECT SALES THE WAY OUT? Deliveries of U. S. soybeans containing more than the allowable level of morning glory and/or bindweed seed continue to create problems in Japan. To ship foreign material from farm to elevator to terminal and/or to point of export, handle it many times, ship it to Japan, and then have to clean it out and throw it away does not make good sense. For those buyers who must have clean beans we must provide the mechanism to assure them of such deliveries. This subject has been mentioned on this page several times in recent months.

Perhaps I am a maverick. I see nothing in our grain grading standards and in our customs and methods of handling soybeans that is sacred. If the standards, which admittedly were developed for carbohydrate crops and not for soybeans, do not fill our needs, then in my estimation we should amend them or otherwise provide protection for the buyer of U. S. soybeans. If we refuse to do so we risk our market. Reports reaching me from Israel, Japan, Norway and Germany indicate that buyers prefer Chinese soybeans over ours, in spite of our higher oil content, because they are cleaner. This has existed for years. Our standards were changed once, and certainly the objections are fewer and less violent than they were before.

Most of the soybeans containing morning glory seed come from one general area of the United States. Over a period of time growers will eliminate this weed and the problems it is creating for us. In the meantime the buyers will go to those areas where clean soybeans are produced. The price advantage enjoyed by the producers located close to ports will be lost. Good beans will go by their doors to the export market, take the price advantage, force the beans containing morning glory seed to go to processing plants.

But why should it take us years to make one small needed change in the information that can be carried on a grain grading certificate? Why should a potential market be jeopardized because a few objections are voiced against any move to change the status quo? When our major buyer wants a determination of morning glory seed content shown, why can it not be done?

The cheap, efficient way to handle soybeans is in bulk, in large quantities. That manner of handling will result in sales of the greatest possible bushelage of soybeans. But if the grain grading section of USDA will not provide the mechanism to assure buyers of satisfactory deliveries then we will see a great trend toward direct sales, on a recleaned basis, handled on an identity preserved basis. No local or federal inspections will be needed. Contracts will circumvent such inspections, provide for direct negotiation.

In my estimation the U. S. grades and grading standards have been good. They should be changed to fit the needs of today. If they are not —then perhaps so far as soybean sales are concerned other mechanisms of sales will replace Federal Grading. Perhaps our industry will be better off for it—but it would be totally unnecessary if administration were realistic.

SOMEBODY MISTAKEN ON CROP At no time in nearly 20 years I have been editing the Soybean Digest have I ever seen our reporters —and we have many excellent ones scattered throughout the soybean producing territory—and the government reports at such odds as during the current crop year. Our crop reporters have consistently told us that the crop was smaller than the official crop reports indicate. They have consistently told us that the soybeans being reported as in storage on farms and at country points by the government crop reports just were not there. The SBD crop reporters have consistently told us that the average yields were well below those being forecast in government reports.

Take a close look at the story on page 20 in this issue reporting on the number of fruits per plant, and the number of developed pods and beans per plant during each of the past 3 years. While this record is from one area only, it may give you something to think about. Has proper allowance for the lower yields actually been made in the official crop reports? Were the soybeans ever actually there, as forecast and reported?

Is there possibility this might be a repeat of the fiasco on cotton production of a few years ago? When the crop was over-estimated 2 million bales, and when the entire crop sold well below the price levels that would have prevailed had the forecasts and reports been accurate?

I do not have the answers. I do know that either our reporters, scattered all over the bean production territory, and thoroughly reliable through a period of years, are wrong on the 1959 crop size—or the government reports are wrong. The next few months will tell the tale. If the beans are actually there then current price levels reflect values. If the beans are not there, and have not been there, then the forecasters have done a great disservice to the soybean producer. Both can not be right. Watch deliveries during coming months.

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THE NEWS IN BRIEF

THE CROP, MARKETS AND OTHER ITEMS OF NOTE

Some February Movement

There was a little country movement of Soybeans in February though it was by no means general. Chester B. Biddle, Remington, Ind., reported farmers in northwestern Indiana were pretty well cleaned out of beans. He says there was heavy disposal before Mar. 1.

C. W. Scammell, Producers Cooperative Association, Girard, Kans., said farmers in his area were holding 40% of the crop in late February and about 2,000 bushels were moving daily. He thinks most will move by June 1.

Dick Potter, Morgan, Minn., says with farmers holding about 25% of the crop there was some small movement in February. Some have given up on a price advance and have sold, but many are still waiting for $2—8¢ above the local price.

Many farmers are still looking for a price advance, and observers believe that a 5¢ to 10¢ rise would stimulate considerable movement. One Illinois observer says farmers would sell rather heavily at $2.10.

John H. Butterfield, Pana, Ill., reported a personal survey in late February of four counties where farmers are holding 30% of the crop. "Everybody said, 'We'll just hold our beans until summer'," he commented.

W. T. McKinney, Amguilla, Miss., says most farmers in his area believe they will be able to obtain $2.25 compared with the late February local No. 2 price of $1.88.

Processor Operations

A Decatur, Ill., newspaper reported all soybean processing plants there were down for varying lengths of time in February. An Illinois processor estimated that Illinois processors were operating at 75% of capacity due to "discouraging margins." Charles V. Simpson, Waterville, Minn., said processors in south central Minnesota were operating at 75% of capacity. An official of the National Soybean Processors Association was quoted as estimating that the February crush of soybeans would total 30 million bushels as compared with 34 million in February 1959. The reported crush so far for the year, October through January, is **running slightly ahead of last year and setting a new record.**

Seed Is Short in Ontario

"For the first time in the history of soybean growing in southwestern Ontario, the problem of obtaining disease-free seed for the next planting season has reached serious proportions, reported A. A. Hildebrand, head, disease treating laboratory, Dominion Research Station, Harrow, Ontario, to the Ontario Soya-Bean Growers' Marketing Board. About half of the samples submitted to the government seed testing laboratory have been found to be infected by a fungus which reduces germination in extreme cases to as low as 20%, according to Dr. Hildebrand. **Infection seems to be limited to the seedcoat for the most part,** and germination can be restored by seed treatment, he says.

The condition is said to be prevalent also in some Michigan and Ohio areas, though G. G. McIlroy, Irwin, Ohio, reports good germination of soybean seed in west central Ohio.

Simpson at Waterville, Minn., says that soybeans harvested after a freeze—and this includes about 80% of the crop—are showing 60% germination. Germination is also reported below normal in Missouri.

Elsewhere, the situation is variable with very good germination of seed reported in many areas.

World Fat Production Is Higher

World production of fats and oils in 1960 is tentatively forecast at an alltime high of 34.2 million short tons, according to Foreign Agricultural Service, USDA. This would be 1% or 445,000 tons above the 1959 record.

The outturn of edible vegetable oils in 1960—processed mainly from oilseed crops harvested in 1959—**is expected to be about 13 million tons, or at nearly the same level as the alltime high of 1959.** An increase in olive oil output, plus moderate increases in cottonseed and sesame seed oils, is expected to be offset by declines in sunflower seed, peanut, soybean and rapeseed oils.

USDA says Mediterranean Basin olive oil production is expected to be almost one-third larger than a year earlier. (But our reports indicate that olive oil supplies for the 1959-60 market year will not be as large as forecast.) USDA says Spanish olive oil exports are now expected to total at least 75,000 metric tons in 1959-60 compared with 40,000 metric tons last year.

Japan's 1960 soybean crop is expected to total about 14.5 million bushels, somewhat less than the 15.7 million bushels produced in 1959, according to unofficial estimates. The United States supplied about 97% of Japan's soybean imports in January-November 1959, or 31.4 million bushels, compared with 86%, or 28.5 million bushels in the same months of 1958.

Recleaned Designation On Soybeans

The American Soybean Association has urged the U. S. Department of Agriculture to take prompt action to **establish a "recleaned" designation on soybeans** in addition to and supplementing the U. S. grading standards "in order to assure foreign buyers of high quality soybeans that they will receive such quality."

In a letter to Secretary of Agriculture Ezra Taft Benson, Geo. M. Strayer, ASA executive vice president, noted: "Recently the Ministry of Health and Welfare of Japan issued a ruling that no soybeans may be imported into Japan which contain more than .07% morning glory and/or bindweed seed, because of the content of pharbitin, which they maintain is toxic to humans. As a result of this ruling many cargoes of U. S. soybeans have been impounded at the point of entry, and the Japanese government has forced the importer to reclean these beans before they will be allowed to enter channels of commerce within Japan."

The ASA proposal is that "one of the definitions of 'recleaned' soybeans could be the provision that not more than .07% morning glory or bindweed seed be included."

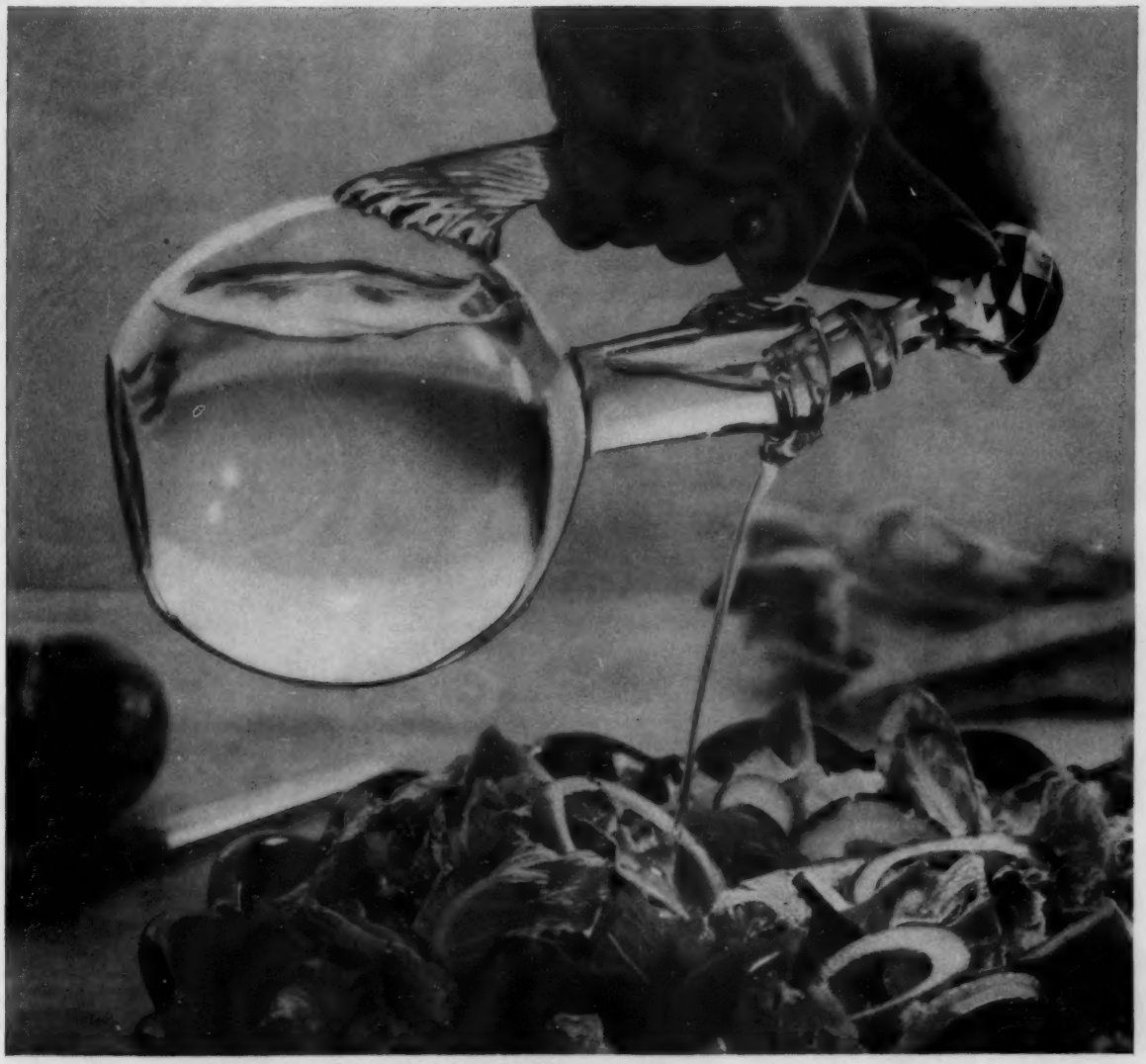
ASA Asks Defeat of HR 7456

The American Soybean Association has filed a statement with members of the U. S. Senate, asking them to vote against HR 7456, which would continue a suspension of the import duty on milk casein instituted 3 years ago, and which expires Mar. 31.

Imported casein is used in paper coatings, plywood glues and paints, and competes directly with isolated soybean protein. The ASA statement noted that the **market for isolated soybean protein is now absorbing 3 million bushels of soybeans annually,** and would take 9½ million bushels each year if the part of the market now being supplied by imported casein were to be supplied by soy protein.

Some USDA men look for an increase in 1960 soybean acreage which would place the total close to the 1958 acreage. There is a difference of opinion among observers in the country. Most who write us expect 1960 soybean acreage to **remain the same or increase a little** as compared with 1959 in their respective localities.

You will receive your copy of the 1960 Soybean Blue Book shortly. All revised and brought up-to-date. We'll be glad to take your order for additional copies for yourself, friends or associates.



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Soil Fertility
IN SOYBEAN PRODUCTION

Profitable responses can be obtained with fertilizers on soybeans — though not at all locations

By WERNER L. NELSON
Midwest Director
American Potash Institute, Lafayette, Ind.

WITHIN the next 10 years many soybean growers will be thinking in terms of a 40- to 50-bushel average. With the high investment business operation they will be watching all factors in production in order to lower the cost per bushel. Are we ready to advise these growers?

Here are the records of two contestants in the Indiana soybean yield contest:

	Tom Maddox bu/A	Eugene Gwaltney bu/A
1949	50.2	51.4
1950	44.7	—
1951	53.3	52.4
1952	35.3	—
1953	—	—
1954	63.6	52.9
1955	47.0	54.6
1956	47.0	48.7
1957	47.9	—
1958	53.6	49.9
Ave.	49.2 bu. (9 yrs)	51.7 bu. (6 yrs)

Why the consistent high yields? No disease? No insect damage? No weeds? No Hidden Hunger? Good variety? Well nodulated? Good rotation? What are the physical, chemical and biological characteristics of the soil?

There are obviously many factors other than fertility that are important in soybean production. However we will concentrate on the fertility question.

The statement is often made that soybeans do not respond to fertilizer. This is not true. Profitable responses are being obtained. Soybeans may not respond at a particular location because some factor is limiting such as lime, stand, weeds, etc., or because the fertility level is already adequate.

Crops of course vary in fertility requirements. For example, white potatoes will respond to P and K on soils fairly high in these elements. Corn might not respond. In the same manner corn may respond to P and K on a soil medium in fertility but soybeans may not.

Thus it becomes very important that the grower know the fertility level of his soil through soil tests.

Watch plant food removal.

High fertility is required for high yields of soybeans. Figure 1 shows that large amounts of nutrients, particularly potash, are removed.

In a corn-soybean rotation the actual removal in a 10-year period at these yield levels would be:

P_2O_5 385 lbs.
K_2O 425 lbs.
(This is roughly equivalent to a ton of 0-20-20)

These nutrients must come from the soil or from added fertilizer or manure. The total plant food content of crops removed from the field gives some hint as to fertilizer needed to replace losses, but of course is not an absolute guide. Soils vary greatly in ability to supply nutrients. Test the soil to follow nutrient level.

Balanced nutrition is essential.

To take care of the fertility needs of soybeans, nutrients must be present in adequate amounts. An example is shown in Figure 2.

Lime the first point to check.

Soybeans can fix most of their nitrogen from the air. This is done by nodule bacteria attached to the roots. These bacteria work best in a soil around pH 6.5. In addition, lime supplies calcium and magnesium for plant growth and does many other jobs in the soil. Hence the first factor to check in a soybean production program is the pH. Get a soil test and follow the recommendations.

If a soil is acid, best returns can-

Figure 1. High yields require a full supply of nutrients. Corn of course needs much nitrogen added.

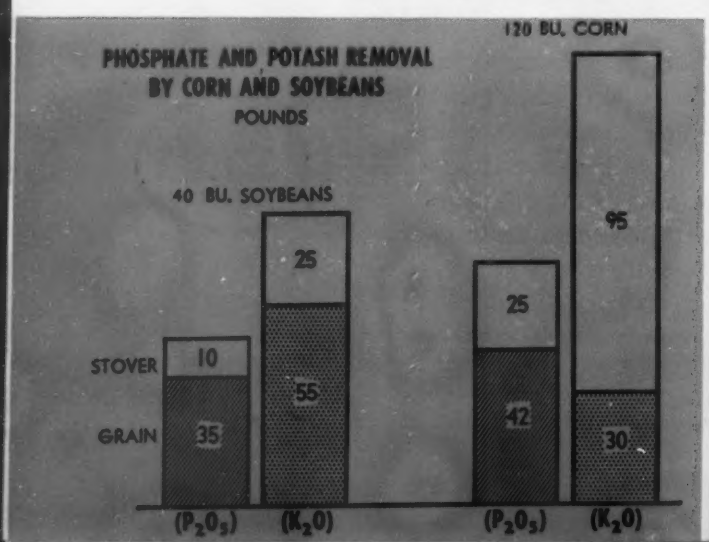
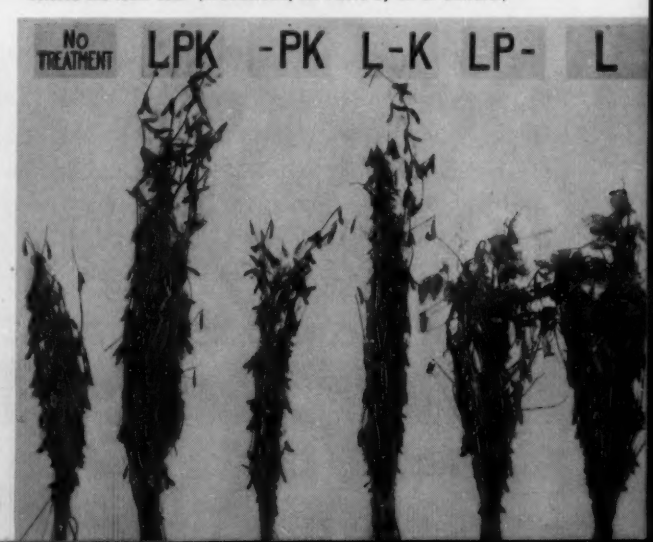


Figure 2. On this multiple deficiency soil, a combination of lime, P and K was needed to produce good soybean yields. Single treatments or combinations of only two treatments were not enough on this light colored silt loam soil. (Brownstown, Ill. Photo by H. L. Garrard.)



not be obtained from application of P and K. Below is an example on an acid soil low in K (40 lbs. P_2O_5 applied per acre). There was little response from K, even on a deficient soil until lime needs were met.

	Yield of soybeans—bu/A		
	12 lbs. K_2O	120 lbs. K_2O	Increase from K_2O
No lime	16	18	2
Lime	22	33	11

Fertilizer at planting.

Fertilizer is generally recommended for soybeans on soils low in P and/or K.

The statement is sometimes made that the grower should fertilize his previous crop heavier and not fertilize soybeans. This is good, but how about the grower who has not done this, is ready to plant soybeans, but his field is low in fertility? He of course should fertilize his soybeans.

Soil test summaries. Almost every state has some kind of summary. One has only to look at these summaries to see that a high percentage of the soils are low in P and/or K.

	Low in P	Low in K
Indiana	40%	74%
Iowa (Area 2)	68%	48%
Iowa (Area 9)	74%	0
Minnesota (N. Cen.)	16%	44%

Phosphorus. On soils low in P, phosphorus at planting gives soybeans a faster start and helps them to get ahead of weeds. A high amount of P early is important in final yields. Phosphorus starvation does not show as definite leaf symptoms, only stunted growth. Hence it is an insidious type of deficiency.

Potassium. Soybeans are an outstanding example of a crop which removes a high amount of K in the grain. Potash deficiency up to time of bloom is shown by yellowing on the edges and cupping of the leaves. Later symptoms may be shown by slow maturity, late defoliation and low yields (Figure 3).

Nitrogen. In general soybeans do not require fertilizer nitrogen when properly inoculated and when grown under conditions of adequate lime, P and K. There is some evidence that under special conditions of irrigation there may be a response to added N. Top growers inoculate each year.

Manganese. Deficiency of Mn may show on soybeans grown in soils above pH 7.0, and sometimes down to pH 6.3 on poorly drained soils high in organic matter. It can be remedied by 10 pounds per acre of manganese sulfate as a spray or 25 pounds in the fertilizer. Iron deficiency may appear in some areas and can be remedied with iron sulfate.

Placement at planting.

Soybeans are very sensitive to high amounts of fertilizer close to or with the seed. In some instances soybeans have not given a response to fertilizer applied at planting. Perhaps an important reason has been poor placement. Improperly placed fertilizer causes injury that can wipe out beneficial effects.

Band. Placement about 2 inches to the side and 2 inches below is a

Where are You on the Soybean Yield Ladder? Why?

67.9 bu.	W. J. Barja, Scudder, Ontario, Canada	1955
67.3 bu.	J. W. Pruett, Iverness, Mississippi	1955
63.6 bu.	Tom Maddox, Indiana	1954
62.1 bu.	Ed. McDowell, South Carolina	1958
60.8 bu.	Molgaard Bros., Iowa	1952
55.5 bu.	Ave. 8 Delaware Contest Growers	1955
45.0 bu.	Ave. 450 Indiana Contest Growers	1944-55
44.2 bu.	Ave. 30 Delaware Soybean Club Members	1958
30.0 bu.	Highest State Average, Nebraska	1958
28.5 bu.	State Average, Illinois	1956
24.0 bu.	U. S. Average Yield	1959
21.3 bu.	U. S. 10-Year Average Yield	1949-58

Figure 3. The slow maturing beans on the left were unfertilized while the nearly mature rows at the right had a PK fertilizer at planting. (Photo by H. L. Garrard.)

Figure 4. Fertilizer at planting should be placed in a band about 2 inches to the side and 2 inches below the seed. Soybeans are very sensitive to fertilizer injury. (Photo by H. L. Garrard.)

safe and efficient placement (Figure 4). Most major machinery companies make this equipment. Some have kits to convert the old split boot to band placement. The extra cost of this kit or regular band placement planters usually does not exceed $10 per row of planting equipment.

Broadcast. Where a large amount of fertilizer is needed, a portion of it may be broadcast. However on soils low in fertility some of the fertilizer should be concentrated in bands close to the seed to give the plants a fast start.

Rotational fertilization.

For the grower who is planning ahead it is most profitable to plan a fertility program for the rotation which will boost soybean yields along with all crops in the rotation.

There are many places to apply fertilizer in a rotation. If only small amounts of fertilizers are required then row fertilization with safe placement would be preferred. When large applications are required, broadcast applications are logical.

Soybeans can use residual fertility provided enough is applied on previous crops. However, there will be little residual for soybeans if only 30 to 40 pounds P_2O_5 and K_2O are applied on corn before soybeans.

The effect of fertility level in the soil on comparative yields in a corn-soybean-wheat-hay rotation is shown below (long-time average—Purdue).

	Corn Bu.	Soybeans Bu.	Wheat Bu.	Hay Tons
lbs. P_2O_5 in soil	Effect of Phosphorus level			
80	106	34	30	3.0
140	116	38	43	3.6
250	117	38	45	4.2
lbs. K_2O in soil	Effect of Potassium level			
110	97	35	47	3.9
140	110	38	46	4.0
300	117	39	46	4.6

Wheat and hay responded greatly to increased level of P while corn and beans gave a 10% increase. Increased level of K gave a 20% increase in corn and hay and a 10% increase in soybeans.

Soil testing helps to give the answer.

It is obvious from the previous discussion that the fertility need of soybeans is dependent on what is in the soil. To do a high class job of soybean production the first step is to get a soil test. If you aren't convinced, lime and fertilize 5 acres according to recommendations.

Fertilizer Profitable in Iowa Tests

EXPERIMENTS conducted at Iowa State University indicate you can't believe the old saying, "Soybeans just don't respond to fertilizer," Agronomist John Pesek told members of the American Society of Agronomy at Cincinnati, Ohio.

Although response to a given amount of fertilizer was less for soybeans than for corn, soybean responses were nevertheless profitable, he added.

Yields and leaf analyses of soybeans and corn plants have shown that soybeans do not respond any better to residual fertilizer than corn does, Pesek added.

The Iowa State test showed there is a positive interaction of phosphorus with potassium in corn so that the total effect of the two elements is greater than the additive effect. The interaction of phosphorus and potassium in soybeans is negative, the experiment shows, in which case the benefits could be less than the additive effects of the two elements, Pesek said. If this concept holds true generally, it may help soybean growers solve the riddle of fertilizing soybeans properly for optimum yields.

The Iowa State tests reported were conducted on soybeans between growth stages 7 and 8—from the time flowers stopped blooming and pods started forming to the time all vegetative growth stopped. Corn leaves sampled were opposite and below the main ear shoot at about 75% to 100% of silking, Pesek explained.

Results from the experiment showed that: (1) Fertilizer or manure treatment was reflected in the chemical compositions of the tissues of both crops, (2) both crops responded to fertilizer, manure or both in most of the tests, (3) responses of corn grain to fertility were relatively greater than those of soybeans, (4) the chemical composition of various parts of the soybean plant varies with the maturity of the crop and the fertility level, (5) the content of nitrogen, phosphorus and potassium in soybean leaves between stages 7 and 8 is frequently higher than it is for corn taken at the time of silking, and (6) yields of both crops are related to chemical composition.

Further soybean fertility research is being conducted at Iowa State University, Pesek reported.

Fertilizer Response Depends on Soil Test

SOYBEANS continue their reputation of responding poorly to fertilizer even though that may not hold true on soils of extremely low fertility.

At the University of Illinois Fertilizer Conference, U. of I. Agronomist L. T. Kurtz told of 1958 trials where 165 pounds of 20% superphosphate per acre increased soybean yields about 6 bushels. Five hundred pounds of superphosphate hiked yields nearly 9 bushels. This series of northeastern Illinois plots had previously tested "very low" in phosphorus.

In 1959 the experiment was repeated at the same location. Kurtz said that where superphosphate had been applied in 1958, there was generally very little yield increase from additional applications in 1959.

Yield boosts from fertilizer have always been more spectacular in corn, mainly because of nitrogen shortage, Kurtz said. But this isn't a problem with soybeans.

Though soil tests have to be quite low, phosphate fertilizers can increase yield of soybeans. Kurtz also pointed out that increases of up to 50% are not uncommon from potash fertilizers where soils test very low in potassium.

Unprofitable Fertilizer Results on Texas Plains

FOR THE third year, fertilizer used on soybeans did not increase the yield enough to pay the cost of fertilizing at the High Plains Research Foundation at Halfway, Tex., Delbert Langford, assistant agronomist, reports.

Rates of application were 40 pounds of nitrogen, 80 pounds of phosphorus and 80 pounds of potash. Each of these was applied alone and in all combinations. Forty pounds of nitrogen alone increased the yield only .13 bushel per acre, 40 pounds of nitrogen and 80 pounds of phosphorus gave an increase of only .54 bushel. The highest increase was obtained with the application of 80 pounds of nitrogen and 80 pounds of potash, which gave an increase of 2.31 bushels per acre above the non-fertilized plots. The value of the increased yield on this test at current prices was $4.50 per acre, but the fertilizer cost amounted to $6.70.

In reporting these results Mr. Langford pointed out that chemical analysis of the soil on which these tests were conducted shows an ample supply of phosphate and potash.

Fertilizers and Lime and the Yield of Soybeans at Baton Rouge

By JOHN GRAY AND M. B. STURGIS
Louisiana State University

A SOYBEAN crop draws on the soil for mineral nutrients, especially phosphorus, potassium and calcium. The limited amounts of available nutrients in any particular soil, of course, would determine the amount required to be added for the profitable production of soybeans.

Observations in Louisiana indicated that soybeans responded well to increased fertility levels; however, earlier preliminary tests at relatively low rates of fertilizer application did not show consistent active response when applied at planting time. Good soil management, including ample fertilization of the previous crop in the rotation, has often been reflected in higher yields of soybean seed. Soils well supplied with the required plant food and organic matter have usually given high yields.

An experiment designed to study the effects of fertilizer and lime on the yield of soybeans was begun in 1948 on Olivier silt loam at the Baton Rouge station. Nitrogen levels in pounds per acre were no nitrogen and 24 pounds, while those of phosphate ranged from none to 36 and 72 pounds of P_2O_5. The potash applications varied from none to 48 pounds and 72 pounds per acre of K_2O. One-half of each of the 0.04 acre plots in each of the 4 replications was limed at the rate of 1.5 tons of dolomitic limestone per acre. A summary of the 1948-1954 results is shown in table 1.

The experiment was moved to an adjoining location in 1956. The 1956-1958 results as well as the treatments applied may be seen in table 2. The Bienville soybean variety was grown. Plant nutrients in all combinations increased the yields since the tests were initiated. There was an increase in yield from liming and from phosphate and potash applications.

In the 1956-1958 experiment, an application of 72 pounds of P_2O_5 increased the average yield 9.8 bushels per acre. A further increase of 6.5 bushels per acre was obtained when 72 pounds of K_2O were added with the phosphate application. The average increase from fertilizer for all applications for the 3-year period was 10.8 bushels per acre. This was an increase of 55% of the average yield of 19.5 bushels of soybeans produced without fertilizer or lime. The highest yield of seed per acre, 44.8 bushels, was obtained from application of 18 pounds of nitrogen, 72 pounds of P_2O_5, 72 pounds of K_2O and 1.5 tons of lime per acre. A consistent increase in yield was obtained from the use of lime. The increase due to the added nitrogen, phosphate, potash, and lime averaged 25 bushels per acre for the 3 years. Of this increase, 9 bushels were from lime. This increase more than equalled the yield of grain from the untreated plots.

The 1948-1954 and the 1956-1958 results showed similar response to fertilizer and lime treatments. Recommendations for Mississippi terrace soils would include liming to pH 6.2 to 6.5 and the application of 400 pounds to 600 pounds per acre of a 3-12-12 or a 0-12-12 fertilizer. General observations have indicated that it has always paid to fertilize the soil when first needed and also that it has always paid to fertilize to maintain high productivity once it has been attained.

TABLE 1—THE 1948-1954 AVERAGE YIELD OF SOYBEANS, TOGETHER WITH THE INCREASES FROM FERTILIZER AND LIME IN A FERTILIZER EXPERIMENT CONDUCTED ON OLIVIER SILT LOAM, BATON ROUGE, LA.

Pounds per acre N-P_2O_5-K_2O	Bushels per acre				
			Increase		
	Not limed	Limed	From fertilizer	From lime	Total
0-0-0	17.5	19.3	0.0	1.8	1.8
0-72-0	26.4	27.2	8.9	0.8	9.7
0-72-48	28.3	32.1	10.8	3.8	14.6
0-72-72	31.5	33.8	14.0	2.3	16.3
24-72-72	31.7	33.8	14.2	2.1	16.3
24-72-48	30.4	32.6	12.9	2.2	15.1
24-36-48	28.1	30.7	10.6	2.6	13.2
0-36-48	25.8	27.8	8.3	2.0	10.3

TABLE 2—THE 1956-1958 AVERAGE YIELDS OF SOYBEANS, TOGETHER WITH THE INCREASES FROM FERTILIZER AND FROM LIME, IN A FERTILIZER EXPERIMENT CONDUCTED ON OLIVIER SILT LOAM, BATON ROUGE, LA.

Pounds per acre N-P_2O_5-K_2O	Bushels per acre				
			Increase		
	Not limed	Limed	From fertilizer	From lime	Total
0-0-0	19.5	25.3	0.0	5.8	5.8
0-48-0	24.2	28.6	4.7	4.4	9.1
0-48-24	26.0	30.1	6.5	4.1	10.6
0-48-48	28.1	35.2	8.6	6.9	15.5
12-48-48	29.4	34.9	9.9	5.5	15.4
0-72-0	29.3	35.1	9.8	5.8	15.6
0-72-36	33.6	37.8	14.1	4.2	18.3
0-72-72	36.0	42.0	16.5	6.0	22.5
18-72-72	35.5	44.8	16.0	9.3	25.3

ICC Approves Lower Rates on Soybeans

REDUCED EXPORT freight rates on soybeans to Gulf ports were found "reasonably compensatory" and allowed to become a permanent part of the soybean freight rate structure by Division 2 of the Interstate Commerce Commission in a January action.

The ICC finding allows to stand export freight rates on soybeans in carloads from origins in Arkansas, Louisiana, Missouri, Illinois, Kentucky and Tennessee to New Orleans and other Gulf Ports that went into effect Nov. 18, 1958. The lower rates were favored by the railroads concerned, the Midsouth Soybean and Grain Shippers Association, the American Soybean Association, and the New Orleans Traffic and Transportation Bureau. They were opposed by barge lines and river elevators.

There is a strong possibility the decision will be appealed to the entire Commission by the barge lines and other protestants, according to Louis A. Schwarz, general manager of the New Orleans Traffic and Transportation Bureau.

Fred M. O'Neal

O'Neal Wins in Delaware with 52.2 Bushels

FRED M. O'NEAL, Seaford, won the Delaware Crop Improvement Association soybean yield contest for 1959 with a yield of 52.2 bushels per acre and was crowned soybean king at the annual banquet, according to Frank B. Springer, Jr., assistant agronomist at the University of Delaware. Mr. O'Neal's yield was higher than the 51.8-bushel yield that won the contest in 1958.

Mr. O'Neal was the only man in the contest who grew Ogden soybeans, which he planted May 27 in 38-inch rows at the rate of 50 pounds per acre. Preceding crop was corn. He used 225 pounds of 0-15-15 fertilizer per acre in the planter.

Others with high yields in the contest:

John F. Wilson, Harrington, 47.4 bushels with Clark planted May 20 in 36-inch rows following corn.

Raymond Townsend, Frankford, 46.4 bushels with Hood planted June 1 in 38-inch rows on soil bank land.

H. W. Cook & Sons, Elkton, 46.3 bushels with Clark planted June 1 following winter oats and wheat.

O. A. Newton & Son, Bridgeville, 45.9 bushels with Hood planted May 19 in 38-inch rows following tomatoes.

A total of 17 contestants had a yield of 40 bushels or more per acre last year and made the 40-bushel club.

Ten of the 17 grew the Clark variety, two grew Hood, two Dorman, one Hill, one Wabash, and one Ogden. Fourteen used fertilizer on the soybean crop. Planting dates varied from May 18 to July 6.

Dillon Wins Again in Iowa Contest

M. E. Dillon

M. E. DILLON, Keota, Iowa, is Iowa Master Soybean Grower for the second year running. His soybean yield was 60.25 bushels per acre, the second highest of record since the contest began in 1941.

Mr. Dillon was a triple winner this year, as he was also winner of the Iowa Master Corn Grower and Iowa Master Contour Corn Grower awards. All awards were presented to him by Iowa Crop Improvement Association at Ames Feb. 16.

Mr. Dillon also won first place in the soybean and contour corn contests last year.

He received the John Sand trophy awarded annually by Sand's Seed Service, Marcus, Iowa.

The contest field was also in soybeans in 1958 and was the field from which the 1958 high yield was obtained.

Mr. Dillon disked in 250 pounds of 5-20-10 fertilizer. The field was planted to Hawkeye soybeans in 18-inch rows at the rate of 3 bushels per acre June 4. Two days later, the field was sprayed with Alanap at the recommended rate. The field was never cultivated after planting.

The field was harvested Oct. 24 with a Massey-Harris self-propelled combine. The Iowa champion used certified seed. "I don't believe in planting weeds, and I know that certified seed is weed free," he said. He grew 32 acres of soybeans in addition to his contest field.

Second place was won by John Robert Kurtz, South English, with a yield of 50.59 bushels. He received the silver plaque from the Iowa Soya Co.

Third place went to Ralph Herr, Keota, with 45.16 bushels per acre. He received the bronze plaque from the Iowa Cooperative Soybean Processors, Redfield.

All three winners were sponsored by the Keota Community Club.

Home-Grown Seed May Need Treatment

HOME-GROWN soybean seed might be in line for treatment to step up germination. Weathering appears to have lowered the quality of some of last season's crop.

Cracked seedcoats caused by harvesting dry beans are also thought to be a reason for some of the low-germinating seed tested recently.

M. P. Britton, University of Illinois extension plant pathologist, says the high-quality seed planted in most years doesn't make treatment worth while. But he urges farmers planning to use home-grown seed this spring to see their farm adviser about having it tested for germination first. The State Department of Agriculture, Springfield, will make the test free of charge.

Britton recommends treatment if germination ranges from 65% to 79%. If it's below 65%, seed treatment plus an increase in seeding rate is in order.

Arasan and Spergon are the seed treatments with the best records in Midwest trials. They should be applied at 2 ounces per bushel, and the job should be done right away, before fungi and bacteria have a chance to lower germination further during storage.

Farmers shouldn't look for treatment to completely rejuvenate low-germinating seed, Britton adds. Certified seed is their best guarantee of high germination.

Maddox of Indiana Wins Ford Efficiency Award

TOM MADDOX, Otterbein, Ind., has received the Ford farm efficiency award for soybeans for 1960. He holds the Indiana state record with 63.6 bushels of soybeans per acre in 24-inch rows, and has scored above the 50-bushel mark five times in recent years.

Mr. Maddox gives soybeans first class treatment in his 1,000-acre operation. They are planted in mid-May at 75 pounds of seed per acre, and are combined at 13% to 14% moisture. He takes care to avoid harvest losses that often steal 5 bushels per acre.

He stores beans until spring to take advantage of the seasonal price trend. At present support prices, his profit is 83¢ per bushel.

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Soybean Rotations

The long and short of it

(From Extension Editorial Office, University of Illinois)

THE RESULTS from over 13 years of soybean rotation experiments at the University of Illinois give agronomists there a "be careful" attitude toward the high-powered corn-soybean rotation.

Soybeans in a longer rotation—corn, beans, small grain, meadow—have plainly outyielded the beans from corn-soybeans. And over the long pull, the land in the longer rotation has netted more per acre.

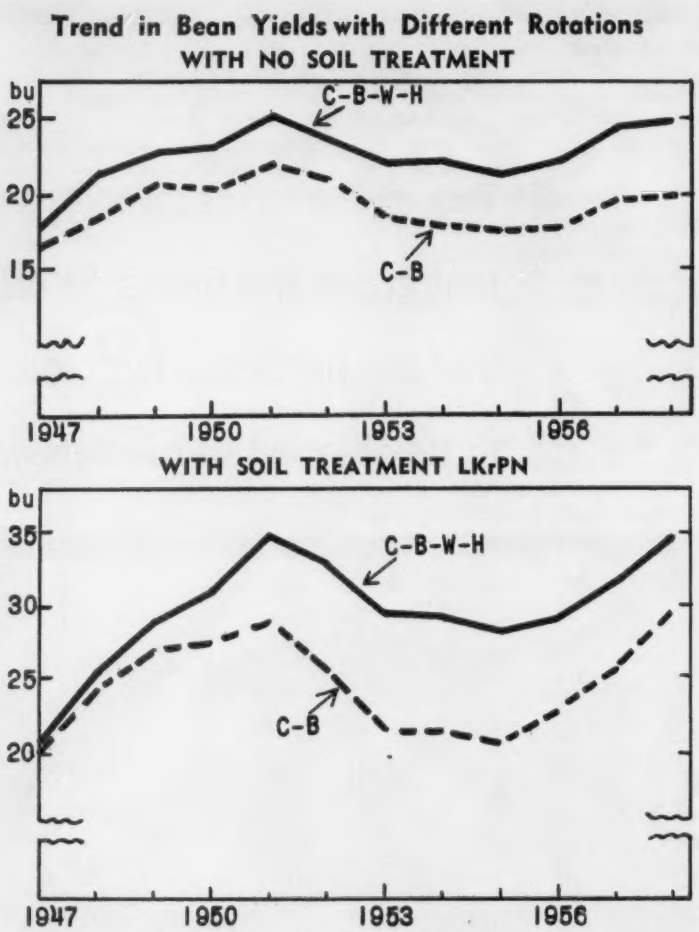
Here is the way Agronomist A. L. Lang sums up the 13-year story on the University's rotation plots in central Illinois.

From 1946 to 1958, soybean yields from the 4-year rotation averaged 31 bushels per acre. Soybeans averaged 26 bushels per acre on the 2-year rotation. No favorites were played in fertilizing. Both rotations received the full treatment according to crop needs — lime, potash, phosphate and nitrogen. Lang points out that fertilizer costs actually ran higher for the corn-soybean rotation because of extra nitrogen needed.

In the early years of the tests, soybean yields on the corn-soybean rotations stayed almost on par with bean yields from the longer rotation. But by the 4th year, the bean yields from corn-soybeans were already averaging 4 bushels lower; the gap has never closed since, and at one point the yield spread was 8 bushels.

The corn-soybean rotation boasted some profitable years at first. But the net acre returns on the 4-year rotation, which includes the cash value of the small grain and meadow, caught up with corn-soybeans in 1954, went ahead in 1955 and has maintained the lead ever since. Lang mentions that net returns on the 4-year rotation were low during the early years mainly because no legume was removed, so the entire income came from the other three crops.

Even with full fertilizer treatment, income from the corn-soybean rotation dipped steadily from 1950 to 1956. It rose slightly in the good



PRODUCTION of the 4-year rotation since 1947 has been well above the 2-year. C—corn; B—beans; W—wheat; H—hay.

TABLE 1. AVERAGE ANNUAL ACRE YIELDS, 13-YEAR AVERAGE, 1946-1958

Soil treatment	4-year rotation				2-year rotation	
	Corn	Beans	Wheat	Hay[1]	Corn	Beans
	bu.	bu.	bu.	tons	bu.	bu.
O	54	23	13	1.7	53	20
LKN	76	26	20	2.4	64	22
LKrP	88	30	28	3.1	68	26
LKrPN	94	31	29	3.0	83	26
LKsPN	92	31	34	3.0	81	26

[1] Nine-year average, 1950-1958.

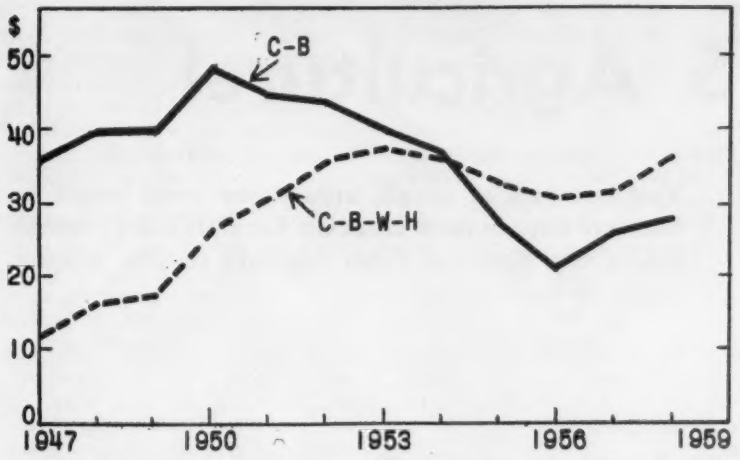
TABLE 2. INCREASES IN YIELD DUE TO TREATMENT MATERIALS, 13-YEAR AVERAGE, 1946-1958

Treatment material	4-year rotation				2-year rotation	
	Corn	Beans	Wheat	Hay[1]	Corn	Beans
	bu.	bu.	bu.	tons	bu.	bu.
N	6	1	1	0	15	0
rP	18	5	9	.6	19	4
sP	16	5	14	.6	17	4
LKrPN	40	8	16	1.3	30	6
LKsPN	38	8	21	1.3	28	6

[1] Nine-year average, 1950-1958.

Table 1 shows the average crop yields for each treatment with each crop rotation since the establishment of the experiment. This includes the beginning or buildup years. The relatively low productive capacity of the soil without treatment is indicated by the average corn yield of 53 bushels in the 2-year and 54 bushels in the 4-year rotation. Table 2 summarizes the average increases in yield due to the use of treatment materials and combinations of materials. All crops show large responses for the use of phosphates and for combinations including phosphate and nitrogen.

Net Acre Returns with Different Rotations, LKrPN Treatment



CROP VALUES were calculated by using "Market Year" prices provided by Illinois Crop Reporting Service. Deducted costs were based on data from Agricultural Economics Mimeo. AE-2969. During the first 4 years, all hay growth was plowed under. In 1954 reseeding was necessary because of drought, and no hay was removed. Net returns in the 4-year rotations were low during those years because fixed expenses continued on the legume acreage while the entire income was produced by the other three crops.

rainfall years of 1957 and 1958. During last season, another dry one, income dropped off once more. Income from the corn, soybean, small grain, meadow rotation has maintained a generally steady climb during the entire 13 years.

Intensive cropping makes a good story the first few years, especially with the present day lineup of fertilizers available to farmers, says Lang. "But soil does get tired eventually and from then on, continuous cropping amounts to continuous gambling with the weather man."

Tillage burns up organic matter and breaks down soil aggregates, Lang explains. Even though the soil might have plenty of nutrients, it won't have the water-holding capacity to supply either corn or soybeans during the dry years. This was neatly illustrated at the University's experimental plots in 1959, a dry year. The soybeans from the corn-soybean rotation yielded only 55% of the previous 4-year average. Soybeans in longer rotation during the dry 1959 yielded 73% of the previous 4-year level which included some excellent rainfall years.

What about minimum tillage? Does it offer the way to grow corn and soybeans year after year and still not abuse the land? University of Illinois agronomists don't have the facts to answer that one but they hope to as soon as possible. The minimum tillage question is now being worked into soybean research at the University.

For the moment, Lang ventures that minimum tillage looks like a partial remedy, but he hopes farmers don't flock to the practice with the idea that now they can continuous crop as long as they want with no ill effects.

Breeders Shift to Protein, Disease

THE NEXT 10 years will bring increased emphasis in soybean breeding on disease resistance and quality and quantity of protein, Agronomist Harvey Thompson predicted to seedsmen attending the annual Crop Improvement Day at Iowa State University Feb. 16.

Since their introduction into the United States in 1920, soybeans have been improved mainly on the basis of percentage of oil, yield, lodging and shattering resistance, maturity and like characteristics. Oil has been "all-important" in soybean breeding programs, Thompson pointed out. Now on a bushel basis, protein is just as important dollarwise as oil. Sixty percent of the high-protein vegetable and animal protein used as food and feed in the United States comes from soybeans.

In view of these facts, long-term soybean breeding programs will probably put more emphasis on protein than in the past—perhaps even at the expense of oil. The soybeans that we now grow contain about 40% protein and more than 21% oil, Thompson said. In the future, soybeans could contain 45% protein and 21% oil, but a program to develop such a bean might take 20 years, Thompson added.

In breeding for disease resistance, breeders recognize that at the present time, soybean diseases cause about 13% reduction in soybean yields each year, Thompson said. The diseases doing the most damage in Iowa are brown stem rot, stem canker, bacterial blight, bacterial pustule and downy mildew. The damage caused by any of these diseases can be considerable. For instance, brown stem rot has reduced yields of soybeans by 23% at Cresco and 18% at Ames.

Sources of resistance to potentially serious diseases are found now in varieties undesirable for field crop production, Thompson pointed out. So it's hard to develop a resistant variety as good as present varieties. It will take time to develop new disease-resistant varieties, Thompson said. And until disease-resistant varieties are available, farmers will continue to use soybeans in rotations to keep down the danger of disease.

Thompson also told the seedsmen that for maximum yields a soybean variety should use most of the growing season. Every day's advance in maturity of a soybean variety results in about a half bushel reduction in yield per acre. For instance, in southern Iowa where Clark will mature it yields about 6.4 more bushels per acre than Hawkeye which matures 14 days earlier. The same is true when comparing varieties with earlier varieties in other areas of the state.

Plan New Minnesota Processing Plant

ABOUT 40 acres is being acquired at St. Cloud, Minn., as a site for a $500,000 soybean processing plant, Central Minnesota Processors, Inc., St. Cloud, said.

The company said growth of soybean production in central Minnesota made the plant feasible. The proposed facility will use about 900,000 bushels of soybeans yearly.

The company has operated a food canning business there for 25 years as the St. Cloud Canning Association. The firm said it will continue this plant during the 1960 canning season, but will then consolidate its activities at the new location.

A new direction for U. S. Agriculture!

Vast numbers of people around the world would be happy to buy our farm products. Excerpts from a speech before the National Farm Institute in Des Moines.

By GEO. M. STRAYER
Executive Vice President and Secretary-Treasurer, American Soybean Association.

PERHAPS WE have made it too profitable for business—and farmers—to store these (farm) commodities! Is there a possibility it has become more profitable to store than to sell? To collect storage charges from Uncle Sam . . . rather than to concentrate on merchandising our products?

Is it not possible that one of the New Directions in Foreign Agricultural Affairs may lead us to Europe, Asia, Africa and South America—where people have need for what we have? And where we will sell rather than store?

Vast numbers of people around the world would be happy to buy and to use some of the things we now produce.

There are markets for U. S. wheat. There are markets for corn, for rice, for cotton, for grain sorghums and other commodities. There are markets for lard, for cottonseed oil, soybean oil, for tallows and greases.

In many cases our products, produced to meet our market demands and standards, are not acceptable in the markets of other countries. The pure white, bland, colorless and odorless lard desired by the U. S. housewife is not acceptable to the German or Austrian who wants a porky odor and flavor, and a darker colored lard. If we are going to ship lard to those countries we must ship the type of lard the housewife there wants — not what *our* housewife wants or what we want them to have.

In the period during and since the war we seem to have acquired a complete disregard for the demands of the export consumers. We have taken the attitude that they can buy what we have as we have it—and like it. They are not doing so. They have not done so. They will not do so. If we are going to sell in export markets we must learn to produce what the buyer wants, in the form he wants it, and at a price he can pay.

Let me illustrate what can be done by the experience of the industry with which I work—soybeans. Since 1946 we have pushed soybean production from 180 million bushels to 250 million, to 325 million, then to 400 million, to 500 million and now to nearly 600 million bushels. Almost 25 million acres have been removed from corn, oats, wheat, cotton and hay and transferred to the soybean crop.

U. S. Largest Exporter

Today the United States is the world's largest net exporter of fats and oils and oilseeds. In 1940 we were the world's largest importers. Where have the soybeans gone? Last year we exported 110 million bushels—1 bushel out of every 5 produced. The crop from 4 acres out of every 20 acres of soybeans was sold into markets that did not even exist 12 years ago! Japan bought almost 40 million bushels, the European countries bought 45 million bushels—and every bushel was sold for *dollars* and *only dollars!*

In addition the oil from another 120 million bushels of soybeans went into export markets, so that in terms of oil more than 2 bushels out of every 5 of U. S. soybeans were sold to customers who did not exist 12 years ago. On top of that 512,000 tons of U. S. soybean meal went into export markets—also for dollars and only dollars.

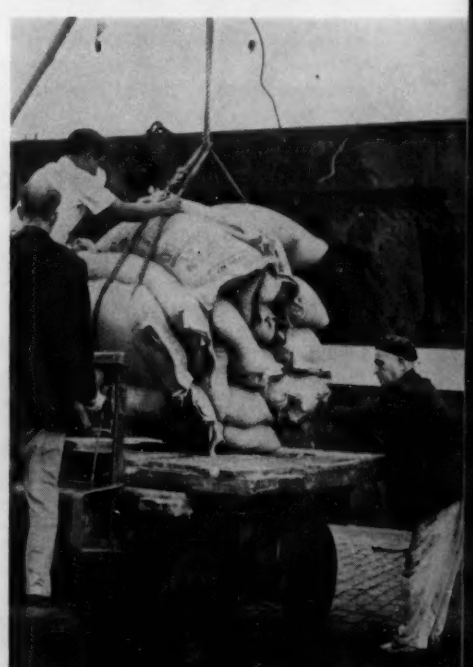
To add to the story we have produced for the U. S. farmer the supplies of protein that have made it possible to produce livestock products more efficiently and cheaply than ever before in U. S. history.

How were these soybean sales made? How were the markets developed? By exactly the same way every other commodity group will have to do its job of merchandising. By planning, by hard work, by tramping the market places of the world day after day contacting the men in government and in the private trade who are the potential buyers of our products.

In 1956 we worked out a market development program in conjunction with Foreign Agricultural Service of the U. S. Department of Agriculture under which Japanese yen funds accrued to the U. S. government were made available to us for expenditure in Japan in developing soybean markets. I want to point out again that no soybeans were sold for yen—all soybean sales, 40 million bushels to Japan last year, were made for dollars.

Since 1956 we have worked steadily with the oilseed crushers association, the miso association, the tofu association, the shoyu association

U. S. SOYBEAN meal arrives in Spain. Meal was donated by U. S. processing firm for experimental purposes.



and the importers association through the Japanese American Soybean Institute which is made up of these five Japanese trade groups plus our American Soybean Association. By utilizing contributions from these five trade groups, the yen funds made available by FAS, and dollar funds of our own, we have carried on a concentrated educational compaign on soybean food products.

Cooking Demonstrations

We have worked through the Japan Nutrition Association, the Food Life Improvement Association, the tofu, miso and shoyu associations in conducting thousands on thousands of cooking demonstrations where the value of soy protein and fat have been demonstrated and told. We have produced a motion picture film used for thousands of showings, which has now been seen by a good percentage of the total population of Japan.

We brought two leading Japanese scientists to the United States to spend a year working at the Northern Regional Research Laboratory of USDA at Peoria, Ill., on proper usage of U. S. soybeans in manufacturing Japanese-type food products. For the past 2 years we have cooperated with the Western Wheat Associates, Inc., in the operation of 12 kitchen buses that travel all over Japan giving cooking demonstrations on proper usage of wheat and soybean food products in feeding the Japanese family.

To Japan the soybean is the major source of the protein you and I get from milk, meat and eggs. Soybeans supply the major part of their protein—and a good part of their fat intake. The intake of both by the average Japanese is far below minimum nutritional levels. Consumption has been increased materially in 5 years—and still has far to go before reaching proper levels. Thus we have not reached maximum exports to Japan and we are continuing our work there.

In Japan we are (a) educating, (b) selling, (c) studying market demands and providing our commodity in the form desired by that market, (d) servicing our accounts, (e) eliminating and carrying on research designed to more advantageously utilize greater quantities of U. S. soybeans in the Japanese economy, and (f) working with Japanese trade groups to remove or minimize restrictions, duties and other deterrents to imports of U. S. soybeans into Japan.

In the European countries similar programs are now being conducted in Spain, Italy, Germany and Israel. All are tailored to fit the local situation. In Spain and Italy major emphasis has been on soybean oil sales to supplement inadequate olive oil crops. . . . We feel there are tremendous potential markets for a high quality and low priced edible oil such as soybean oil. In one recent year Spain has taken 300,000 tons of U. S. soybean oil. The Spanish are finding it acceptable, they are learning to use it, and they offer a long-time market for increasing quantities of U. S. soybean oil. Egypt, Turkey, Greece and other countries in the Mediterranean area offer similar market possibilities.

Along with soybean oil sales we also talk about soybean oil meal and its value in livestock feeding. Last year Italy purchased—for dollars—over 80,000 tons of U. S. soybean oil meal. Spain is also making sizable purchases of meal.

The exporting of one-fifth of our soybean crop, one-fifth of the oil from the soybean crop, and the meal from another 25 million bushels of soybeans has been brought about by hard work by a lot of people in a great many places all over the world.

Our men, along with representatives of the fats and oils division of USDA's Foreign Agricultural Service, have visited 40 countries of the world in the past 18 months surveying the potential markets for U. S. soybeans and soybean products, and at the same time analyzing supplies and competition from other products.

In the past month the Soybean Council has signed a "global market development agreement" with Foreign Agricultural Service that will enable us to use certain amounts of foreign currencies which are the property of the U. S. government, accrued from sales of surplus agricultural commodities, in some 40 countries of the world. This global agreement is the first of this type ever signed, and represents the experience gained in work in this field in the past 5 years.

The Job to Be Done

Why do I relate this story of soybean sales? Because it represents the type of work other commodity groups must do in markets around the world if we are to solve our problems of overabundance. It represents a "new direction" in our foreign agricultural affairs. It represents the type of job that *other producers* must do if they are to remain in business on their present scale.

There remains, in my estimation, but one group qualified to do this job—the commodity organizations representing individual commodities. . . . The one solution, it seems to me, is for the producers of each major commodity for which there is an export market or a potential export market to pool their efforts, organize themselves and go about their job. Until they do so the job will go undone—or government may try to do the job as a result of political pressure.

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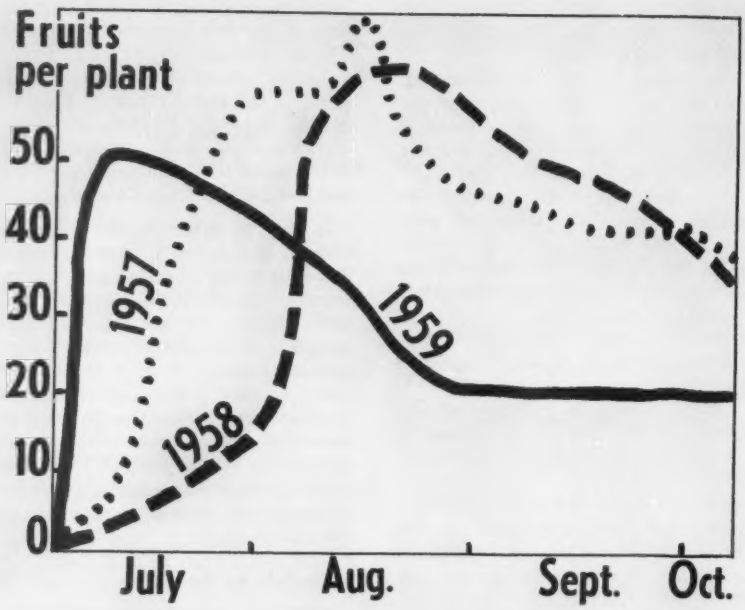

Fruits equal blossoms plus pods.

Why Dry Seasons Cut Yields

By GEORGE H. DUNGAN
Executive Secretary, Illinois Seed Dealers Association, Inc.

THE SHORTAGE of moisture in Illinois in 1959 had one obvious effect on both soybeans and corn. It made the plants shorter. The dry season, also, reduced the yield per acre. Small plants do not ordinarily yield as well as large ones. But what were the factors which contributed to this yield reduction?

My work in nearby soybean fields during the last 3 years has given me some information which will help answer this question. I have counted blossoms, brown blossoms, small pods, large pods, filling pods, and mature pods on marked plants at intervals during the growing season, finishing up when the beans were ripe. I lump the blossoms and pods together, calling them fruits. A blossom is a potential small pod and a small pod is a potential mature pod with ripe beans in it.

As one might expect, however, not all blossoms and small pods end up in mature pods. From my study curves can be drawn showing changes in fruit number during the season. The curves in the figure show the number of soybean fruits per plant through three growing seasons.

As will be readily observed from the chart the maximum number of fruits per plant in 1959 was less than in the 2 previous years. The highest number in 1959 was 51, whereas in 1957 it was 69 and in 1958 62. Another easily seen difference is in the earliness that maximum fruiting was reached in 1959. In 1959 the plants had 51 fruits on July 16 and comparable dates of maximum fruiting occurred on Aug. 13 in 1957 and on Aug. 14 in 1958.

The most striking difference, however, is in the final number of mature pods per plant. In 1959 the plants averaged only 21 pods each, whereas, in 1957 the number of 38 and in 1958 was 36.

	Year		
	1957	1958	1959
Average maximum number of fruits per plant	68.6	62.1	50.8
Average number of bean-bearing pods per plant	37.8	36.1	21.2
Percentage of fruits that produced mature beans	55.1	58.1	41.7

The data were collected by Mr. Dungan in his part-time duties in the Illinois Cooperative Crop Reporting Service. Ten varieties of soybeans were worked with each year, but two or three varieties in 1958 were not included in 1957 and 1959. This may have made a slight difference in results.

USDA Committee Urges Expanded Nutrition Study

BASIC studies of the nutrition and other physiological problems of soybean plants should be expanded as a method of understanding and improving the growth responses of this increasingly important crop, members of the U. S. Department of Agriculture's oilseeds and peanut research and marketing advisory committee concluded at the annual meeting in Washington in January.

Basic research to develop new soybean varieties with resistance to potentially dangerous diseases also needs high priority emphasis, according to the committee.

In the area of utilization research, the most important need is for basic studies aimed at determining the composition of vegetable oils. Particular attention should be given to the minor constituents and glyceride composition. Such information would lead to wider use of vegetable oils, the committee indicated.

Studies aimed at increasing the stability of edible soybean oil would help to increase use of this commodity, the committee pointed out. Research has already shown that instability of soybean oil as a food oil is caused by a small amount of linolenic acid naturally present. Increased effort is needed to develop methods of blocking unwanted reactions of this acid.

Studies aimed at increasing the feeding value of oilseed protein concentrates in mixed feed are also an important research need, the committee said.

Francis Scofield, National Paint, Varnish, and Lacquer Association, Washington, D. C., presided.

Included among other committee members are John W. Evans, American Soybean Association director, Montevideo, Minn.; Otto Brandau, Rudd, Iowa, producer; and A. C. Hoehne, Cecil Bays & Co., Arcadia, Calif.

1959 Margarine Output Reached Alltime High

"MARGARINE production in 1959 totaled 1,611.4 million pounds which is a new record," according to Siert F. Riepma, president of the National Association of Margarine Manufacturers. Riepma based this statement on figures just released by the U. S. Bureau of the Census.

"Per capita consumption of margarine," Riepma said, "is also at an alltime high of 9.2 pounds per person. The total per capita consumption for both butter and margarine is 17.5 pounds per person," he noted, adding that this includes 1.7 per capita of government donated butter.

Creamery butter production, according to the U. S. Department of Agriculture, was 1,329 million pounds in 1959.

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	10%	153
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	90%	155
	Dry Point	156
	% Aromatics less than	0.3
Solvency Power	Aniline Point °F	143
Color		Crystal Clear

HEPTANE • Typical Properties		
Volatility	Distillation (ASTM D-1078-49T)°F IBP	
	10%	201
	50%	203
	90%	205
	Dry Point	207
	% Aromatics less than	0.3
Solvency Power	Aniline Point °F	144
Color		Crystal Clear

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Trend to Truck Shipments in Indiana

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Midsouth Potential Soybean Leader

THE JAPANESE ruling limiting morning glory seed in U. S. soybeans shipped into Japan to .07% is a problem mainly of the Midsouth and may mean a shift of exports to Japan away from the Midsouth to northern areas, David R. Farlow, assistant to the executive vice president of the American Soybean Association, told the Midsouth Soybean and Grain Shippers Association at Memphis Feb. 17.

Mr. Farlow said the Japanese Ministry of Health and Welfare is prohibiting shipment of soybeans with a higher than .07% content of morning glory seed because of a poisonous substance supposedly contained by the seed.

He said that soybeans in the Midwest and North contain only a minor amount of morning glory seed.

Mr. Farlow told the group that ASA has urged the U. S. Department of Agriculture to establish a "re-cleaned" designation on soybeans which would show morning glory seed content.

He emphasized the fact that the morning glory ruling is by the Japanese government and is opposed by Japanese buyers just as much as by U. S. sellers.

The general feeling of the shippers group was that a uniform application of the grading standards to soybeans is needed. It was pointed out that discounts are taken for different things at different points.

Lee Canterbury, Cargill, Inc., Memphis, said the area south of the Ohio River is the future potential leader in soybean production.

Approximately 150 attended the 2-day meeting. Albert R. Cravens, Missouri Soybean Co., Caruthersville, Mo., is president of the Midsouth Shippers Association. Paul C. Hughes, Farmers Soybean Corp., Blytheville, Ark., is secretary-treasurer.

Billion-Bushel Soybean Crop Not Far in Future

WITH MANY foreign countries offering a tremendous potential market for U. S. soybeans a "1-billion-bushel soybean crop is not too far in the future," David R. Farlow, assistant to the executive vice president of the American Soybean Association, told the tri-state soybean production and marketing forum at Lake Providence, La., Feb. 26.

Farlow quoted the Indian oilseeds committee as estimating that by 1972 India will have to import about 2½ million tons of oils to meet its needs, which is two-thirds of the current production of soybean oil in the United States.

AT MIDSOUTH Shippers meeting, James W. Young, Jr., Crawfordsville, Ark., (left), and ASA's David R. Farlow.

"I know that countries such as India and Pakistan do not have a favorable dollar position from which to buy U. S. soybeans or soybean products, but many people said Germany and Japan after World War II would never represent a market for American products again. It is interesting to note that Japan last year imported over $100 million worth of soybeans alone, and paid good hard dollars for them. And Germany is our next best customer.

"We in American agriculture need not only salesmen to sell our products but to service the sales. If you have good salesmen who render good service, they will see to it that the customer receives the goods he desires.

"There is a tremendous market waiting for our soybeans and soybean products, but we must do a selling job. If we do this job, the future of the soybean industry is truly unlimited."

Calls Tidewater Grain Outlook Very Desirable

THE TIDEWATER area with Norfolk, Va., as its primary port is "in a very desirable position" for profitable grain production and grain export, according to the southeastern regional manager of Cargill, Inc.

Benjamin S. Jaffray told a meeting of the Sertoma club at Norfolk that "production successes of other areas and grain export successes of the St. Lawrence Seaway and the Gulf should have little effect on Norfolk or the farming potential of Virginia, Maryland, Delaware and North and South Carolina.

The grain man pointed out that the five states' soybean production has increased 400% in 10 years.

Add New Space to Prater Plant

THE NEW LOOK about the Prater Pulverizer Co. plant at 1525 South Court, Chicago, is not just the attractive new front. Another 26,000 square feet have been added to handle increased production of the famous Blue Streak Mills and Twin Spiral Mixers. The expansion is the third since 1946 when a completely new plant was erected. A second addition was realized in 1955. "The current plant enlargement," says George Thomas, president, "is part of our plan to meet the feed industry challenge of the Sixties."

Trend to Truck Shipments in Indiana

By PAUL L. FARRIS and DAVID A. STOREY
Agricultural Economics, Purdue University

TRUCK SHIPMENTS of corn, oats, wheat and soybeans increased from 29% to 35% of Indiana country elevator purchases of these grains between the first and second year of the period Oct. 1, 1956, to Sept. 30, 1958. Rail shipments decreased from 55% to 49%. The proportion retailed to farmers was 16% in both years. The increase in truck shipments occurred in the northern and western parts of the state. Truck shipments increased for each of the four grains (see table).

The percentage of truck-shipped grain going out of state decreased from 60% in the first year to 55% in the second year. Forty-three percent of the truck-shipped grain went to Kentucky and Illinois in the second crop year, with Louisville receiving 16% and Chicago receiving 15%. Eighty-four percent of the trucked grain that went out of the state was hauled in trucks that did not have return loads.

Average trucking charges for corn, wheat and soybeans increased steadily from about 4¢ per bushel for short hauls under 10 miles to about 10¢ per bushel for hauls 200 to 300 miles. Charges for oats averaged about 2¢ less per bushel than for the other three grains for shipments up to 250 miles.

Trucked-in shipments of corn and oats increased between the first and second year. Illinois was the origin of more than half of the trucked-in corn and oats during both years.

In interpreting the above changes it should be remembered that many factors can cause year-to-year variations in methods of shipment. The findings show the relative importance of rail and truck shipments for 2 consecutive years. The results may or may not indicate a longtime trend. Important factors which will influence future trends include relative grain shipping rates by method of transportation and the locations of future grain supply and demand areas.

For details see Purdue University Mimeo EC 184, Purdue University, Lafayette, Ind.

Percentage disposition of corn, oats, wheat and soybeans handled by Indiana country elevators during the 1956 crop year (Oct. 1, 1956, to Sept. 30, 1957) and the 1957 crop year (Oct. 1, 1957, to Sept. 30, 1958).

	Corn		Oats		Wheat		Soybeans		Total	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
	Percent									
Retailed	25	25	67	61	2	2	0	1	16	16
Shipped by rail	50	44	15	18	69	64	60	54	55	49
Shipped by truck	25	31	18	21	29	34	40	45	29	35
Total	100	100	100	100	100	100				

THE COVER PICTURE

Clearing Land for Beans In Southern Illinois

A LAND CLEARING job is under way in southern Illinois that is converting bottom land timber areas into farmable crop land, much of which will grow soybeans. Pawnee Construction Co., Fairfield, Ill., is spearheading this work, which centers in Wayne, Hamilton, and Gallatin Counties. An estimate of the acreage cleared to date is 10,000 acres.

The land being cleared has been wasteland overgrown with scrub trees and brush, most of it bottom land that has to be drained to make it productive.

The clearing is being done with Allis-Chalmers crawler tractors with huge front-mounted "V" cutter blades. Production is roughly an acre to 1½ acres per hour, per unit.

There's more to the land clearing than just cutting away brush. The brush has to be windrowed and the windrows burned. This operation is followed by a final raking and disking. Since much of the land is marshland, it is necessary to cut a drainage channel to remove surface water from the fields.

The trees and brush are cut about 4 inches below the surface of the ground. The roots are left. These will rot in about 5 years' time permitting the use of a moldboard plow.

But deep plowing is not necessary for the planting of beans, which are being planted following disking. A 10-foot disk is being used, pulled by an A-C HD-16 crawler tractor.

This area of Illinois is soybean country. Contractor partners Harold Liddell and Jim Castle say the cleared land will produce 35 to 40 bushels of soybeans per acre.

Liddell and Castle are working a 960-acre tract in Wayne County, Ill., which they will farm themselves. They have also done a considerable amount of custom land clearing for other landowners.

PARTNERS Jim Castle (left) and Harold Liddell are converting scrub timber into productive soybean land in southern Illinois. Cover photo shows debris being windrowed by a pair of Allis-Chalmers HD-16 crawler tractors. The piled debris is then burned.

New South Carolina Processing Plant

A NEW SOYBEAN processing plant will be added to the feed mill of Spartan Grain & Mill Co., Spartanburg, S. C., and will be in operation in time for 1960-crop soybeans, the firm has announced.

The company, which uses about 50 tons of soybean meal daily in its livestock and poultry feeds, made the announcement during a recent meeting with Clemson College agricultural workers. The company officials and the college men foresee as a result of the new plant increased production of soybeans in the Piedmont area of South Carolina where the crop has been relatively unimportant until now.

According to C. B. Fretwell, founder and chairman of the board of directors of Spartan Grain & Mill Co., the plant may use up to 600,000 bushels of soybeans annually. The company has been purchasing its soybean meal from other areas.

Clemson College extension service and South Carolina Experiment Station specialists have placed detailed recommendations for soybean production in the Piedmont region in the hands of county agents.

Soybean expansion to Piedmont farms would continue a trend started on the Coastal Plain following World War II. According to figures of the S. C. crop reporting service, the state's total cash income from soybeans in 1949 was less than a million dollars. The same agency lists the value of soybean production as $11,840,000 for 1959. Most of the soybeans have been grown on the Coastal Plain.

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New Plant Completed by Honeymead

COMPLETION of the new combined soybean and flaxseed solvent extraction plant of Honeymead Products Co., at Mankato, Minn., has been announced by Lowell W. Andreas, president. Honeymead's Mankato facility now has a capacity of well over 23 million bushels per year.

Engineering Management, Inc., Park Ridge, Ill., are consultants and engineers for the project and are responsible for engineering design, procurement and construction supervision. Project manager is Edward D. Milligan.

The new plant is a completely independent processing unit built partly adjacent to and partly within the older plant. A new preparation building houses the feed handling, cleaning and preparation equipment which features new type "Rosedowns" large capacity screw presses for prepressing flaxseed, and a new style large capacity flaking mill designed to flake the full plant capacity in only two units.

A new extraction building contains Honeymead's original Rotocel which was reinstalled after rehabilitation and modernization, and a two-stage distillation system designed to operate on less than half of the normal steam consumption. Desolventizing, cooling, meal storage and finishing operations were fitted into space available in the existing plant. Construction of the plant was highlighted by the small amount of interference with operation of the older plant and was climaxed by an unusually short startup time of only 4 days.

Engineering Management has also been chosen to design and supervise the installation of a proposed new facility for producing shortening and margarine oil from soybean oil.

Dwayne O. Andreas, Honeymead's chairman of the board, calls this an additional step toward the development of a totally integrated company. "It is our expectation that we can broaden the market for our products by offering margarine oil and shortening, particularly for export sale."

Discuss Pneumatic Grain Handling at Texas Meeting

ADVANTAGES and disadvantages of pneumatic handling of grain were discussed by two Texas teachers of agricultural engineering at the 1959 winter meeting of the American Society of Agricultural Engineers in Chicago.

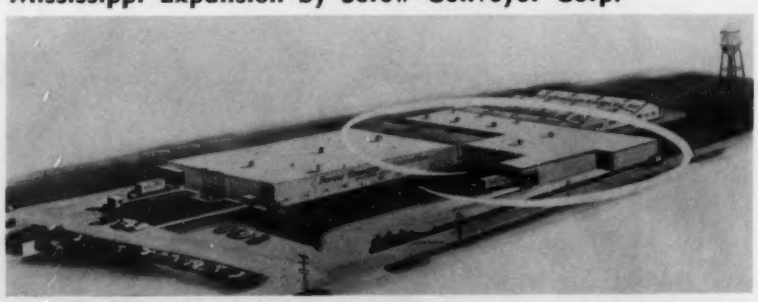
Nat K. Person, Jr., instructor, and J. W. Sorenson, Jr., professor, of agricultural engineering, both at the Texas Agricultural Experiment Station, College Station, Tex., said a few of the advantages of a pneumatic conveyor for grain are that it is self cleaning, has few moving parts, and may be installed around present equipment. They found the two major disadvantages to be low mechanical efficiency and high probability of material damage.

Tests were made at the experimental station using three different pneumatic systems. Sorghum grain having three ranges of moisture content was conveyed at different capacities through the three systems.

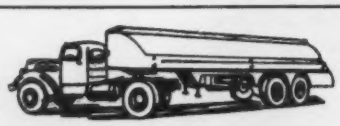
Test Soy Casserole

GENERAL FOODS CORP. is testing a partially dehydrated spaghetti casserole that can be eaten on Friday by Catholics because its "meat" is actually made of soybeans, reports Time Magazine. The casserole "has everything including religion," according to General Foods chairman Charles G. Mortimer.

Mississippi Expansion by Screw Conveyor Corp.



A MAJOR expansion project is nearing completion at the southern plant of Screw Conveyor Corp., Winona, Miss. Currently under construction is a new addition comprising 45,000 square feet indicated by the circled section in the bird's-eye view above. These modern masonry buildings will house enlarged structural and fabricating departments, permitting greater flexibility in the manufacture of Kewanee Hydraulic Truck Dumpers and increased production of screw conveyors, troughing, Hammond and Winona Elevator Buckets, bucket elevators, screw lifts, Super-Flow conveyor and other fabricated products. The new addition will bring the total manufacturing area of the plant to approximately 145,000 square feet.

Ship By 

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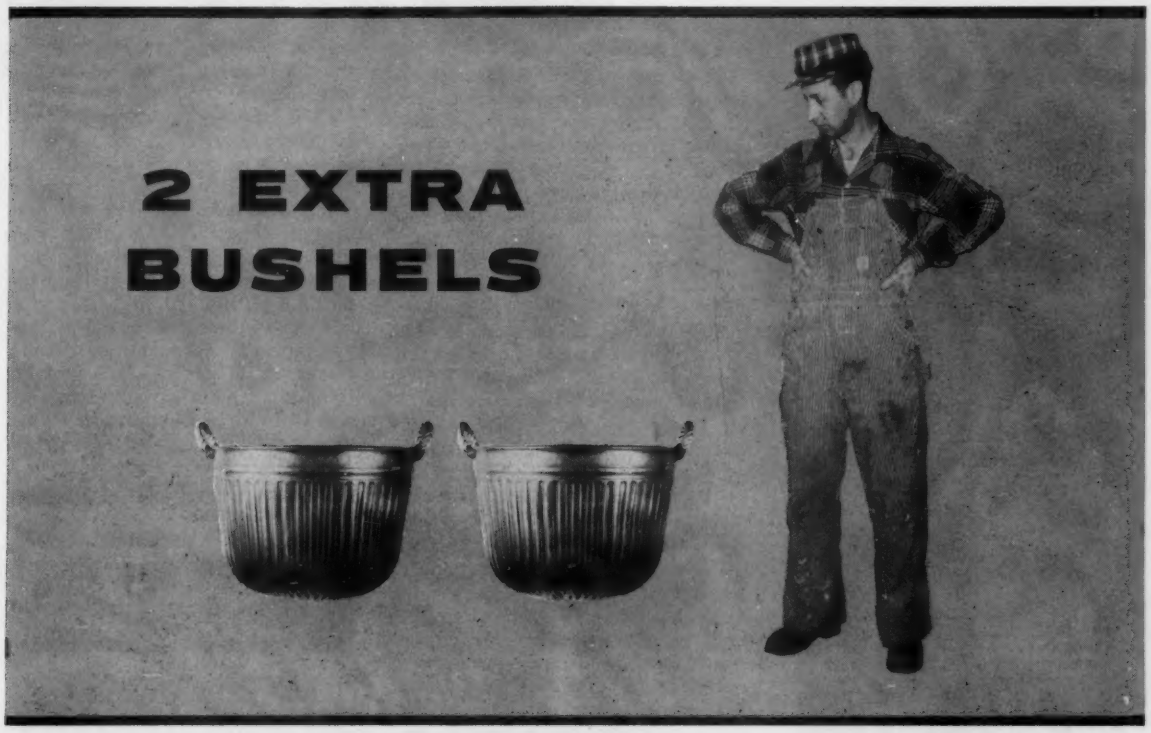

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JAPANESE-AMERICAN SOYBEAN INSTITUTE

May Trade U. S. Soybean Futures in Japan

By SHIZUKA HAYASHI
Managing Director, Japanese American Soybean Institute, Nikkatsu International Bldg., No. 1-Chome, Yurakucho Chiyodo-Ku, Tokyo, Japan

VARIOUS PROBLEMS were discussed in a recent meeting between the Japanese American Soybean Institute and the representatives of miso, shoyu and tofu in Yagoshima City. Yagoshima is on Kyushu Island about 1,500 kilometers from Tokyo, and is the largest city in the extreme southern part of Japan.

Through the efforts of the various soybean groups as well as continuous promotional efforts by the Soybean Institute, U. S. soybeans are popular even in this area, far from the industrial centers.

The number of tofu manufacturers in Kagoshima Prefecture is the largest in Japan, even larger than in Tokyo.

Mr. So, president of the Kagoshima Tofu Association, stressed that it is most desirable for U. S. soybeans to be of better quality—that they should be cleaned better with less foreign material. Otherwise much time and expense are required to pick out foreign material and unusable damaged beans.

Mr. So also pointed out that the day may come when Chinese soybeans are available for food processing in Japan. He stated his experience has been that the yield of perfect soybeans is greater from Chinese soybeans than from American soybeans. The lower U. S. price for soybeans is actually higher if you consider cleaning charges and the loss of weight.

Kyushu is only about 1,000 kilometers from the Chinese mainland, which suggests that unless American soybeans come into Japan in better quality, the tofu and miso people may go back to using Chinese soybeans.

Since the end of the war it has been the habit of the tofu, shoyu and other groups to buy U. S. soybeans No. 2 grade.

Very often in meetings the writer has been asked whether beans of better quality than No. 2 are available. He has always replied that buyers can get No. 1 quality if they wish and so specify in the contract.

The question was raised at Kagoshima. Japanese oil processors have been buying No. 2 soybeans almost exclusively because of the lower price. And food processors have gained the impression that No. 2 is the only grade available.

As a result of the meeting and the explanation of the writer, the buyers in the Kyushu area now know that if they wish they can obtain soybeans of No. 1 grade. Representatives of the miso, shoyu, tofu and other groups have agreed to try to order on the No. 1 grade basis in the future.

Severe Regulations

Buyers of U. S. soybeans in this prefecture are at the mercy of the severe regulations of local officials of the Ministry of Welfare on morning glory seed content of soybeans. The ruling is being carried out with no consideration being given to explanations by buyers that foreign material such as morning glory seed is picked out before processing.

Urged and forced by the natural world tendency toward free trade, Japan has made up its mind to free imports of various commodities which have been under government control. The government of Japan has expressed its intention to put soybeans under the automatic approval system during 1960. The Ministry of Agriculture seems strongly opposed to freeing soybean imports but the time has come when it must change. Protecting a small quantity of domestic soybeans is an internal problem that has less importance than the world situation which Japan must face.

The grain exchange houses in Japan have been studying the possibility of adding U. S. soybeans to the commodities to be traded on futures in the exchanges. The writer was invited to be present at a meeting to explain the steps necessary when U. S. soybeans are traded on the exchange. He has been invited to be on the committee for this preparation. One of the most important points to be studied is the U. S. soybean grading standards. Eventually they may have to be revised in order to be competitive with domestic and Chinese soybeans.

Another question being seriously studied is that of erecting elevators at the sea ports such as Yokohama, Tokyo, and Osaka, where imported soybeans will be received in bulk and stored for more economical distribution to various consumers. A few large importers have actually started working on this problem. One importer, it is reported, has just leased an elevator in Tokyo Harbor for this purpose. Under the proposed facilities imported beans could be recleaned to suit the requirements of different buyers.

Imported beans are at present handled in a manner that necessitates full cargoes being unloaded into barges at wharves for sacking before delivery.

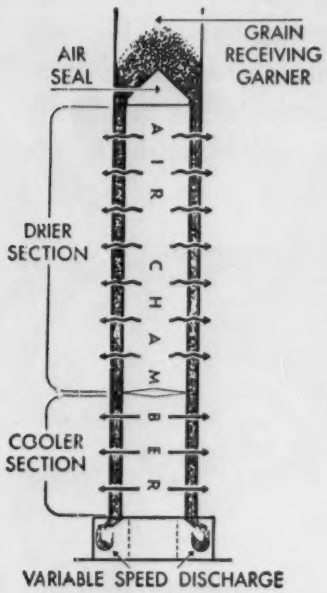
When soybeans become free anyone can buy any quantity from any country. Chances of trade will become greater but certainly competition will also become greater. When price and quality of soybeans from the different parts of the world are equal the winner will be the one who offers service.

SOYBEAN COUNCIL OF AMERICA, INC.

Italian Baby Saved by American Soybean Milk

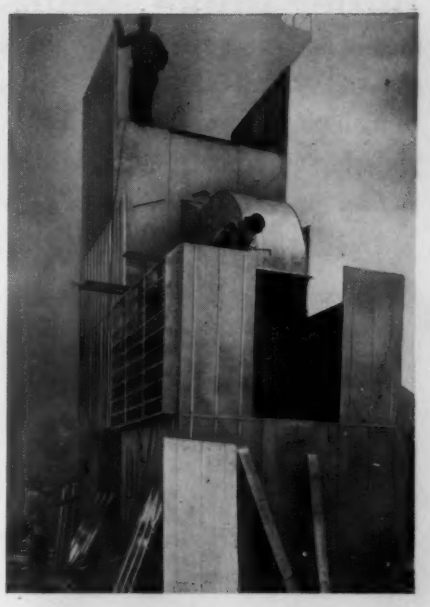
LITTLE PAOLO Maestrelli is safe, thanks to the combined efforts of two well-known American organizations. The 4-month-old son of an Italian TV cameraman was recently stricken by a serious form of allergy for milk. The only hope for survival lay, according to the top medical authorities, in an immediate soy milk diet. Soy milk is a hypoallergenic food of high nutritional value,

Paolo Maestrelli



Cut-a-way drawing shows Shanzer's exclusive, narrow screen column design principle. All the grain is near warm air source for absolute drying uniformity and tremendous capacity. All the grain is completely contained; no ledges; no obstruction to either grain or air flow. Complete drying and cooling cycle is open to operator's inspection.

Shanzer installations can readily be custom-fitted to specific plant requirements. All parts are die-punched for true erection and easy interchange. Enclosures are of modular type design. Every installation is permanently registered as to customer, parts and special modifications for fast, accurate, service attention.



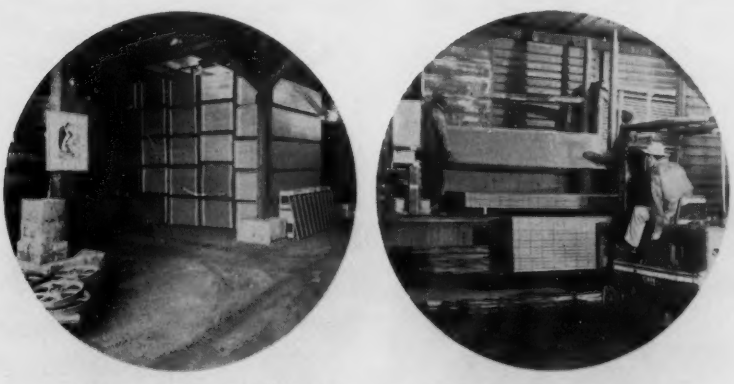
WHY YOU GET MORE FOR YOUR DRIER DOLLAR WITH A SHANZER

On the job performance value and company service are often cited by elevator owners and operators as reasons for their overwhelming preference of Shanzer drying units.

Behind this loyalty is Shanzer's quarter-century policy of specialization in the manufacture of quality grain drying equipment. Owners know that a Shanzer unit means more uniform drying, lower maintenance and operating cost, trouble-free performance and outstanding operating safety.

Shanzer's severest competition does in fact come from other Shanzer units, some a decade or two decades "new," which are still delivering top economy and performance. Talk with a Shanzer owner, see the difference, you'll agree the value buy in driers is a Shanzer.

Complete planning assistance on such things as drier layout, flow problems and special handling equipment has saved thousands of dollars for customers in many instances. Shanzer's quarter-century experience and fully staffed engineering department are at your call.



Fast processing and shipment of your order is another result of Shanzer drier specialization. Fully stocked inventories mean there's no delay in shipment, with the needed unit on the way in most cases within 24 hours!

Specialized manufacturing methods and equipment assure the highest quality obtainable in grain drying machinery. Every part must pass a rigid double check before final clearance, and insurance records show Shanzer driers to have the finest safety rating in the industry.

SHANZER MANUFACTURING COMPANY

Designers and Manufacturers of Stationary and Portable Grain Driers, Bucket Elevators, Conveyors and Manlift Elevators

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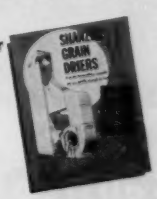
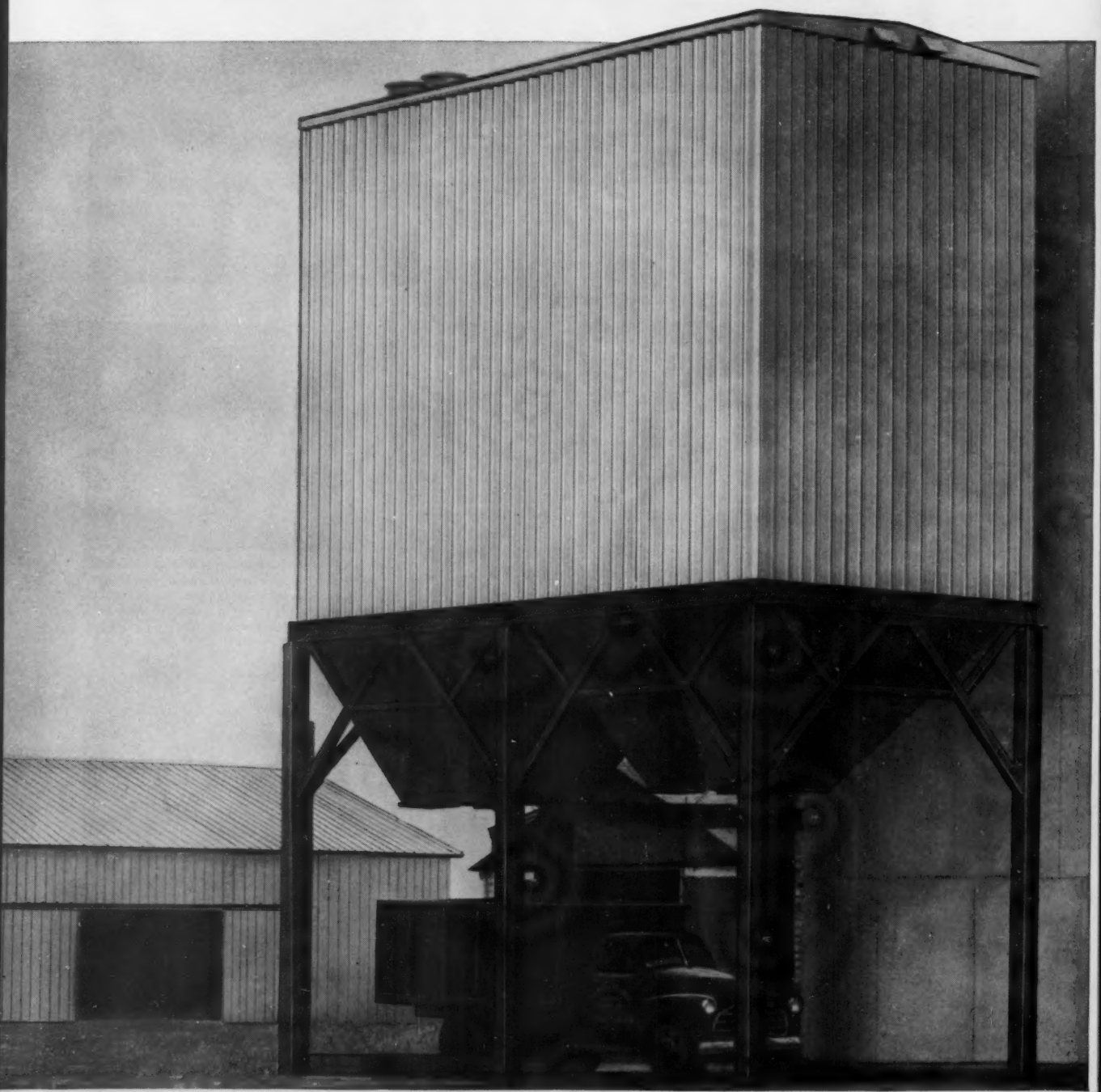


Butler Bulk-O-Mates – Planning to expand and go after profitable bulk feed business in new areas? Here's the newest way to build big-capacity, free-flowing terminal load-out, or country load-out and receiving stations. Bulk-O-Mates are completely "packaged" installations including roof deck, square tanks, hoppers and supporting structurals. You save costly planning and construction time, get into business sooner. Available in tank capacities from 1 to 50 tons. Contact your authorized Bolted Tank Contractor. Or write direct.



BUTLER

BUTLER MANUFACTURING COMPANY 7461 East 13th Street, Kansas City 26, Missouri

Manufacturers of Equipment for Farming • Oil Transportation • Outdoor Advertising • Metal Buildings • Contract Manufacturing

Factories at Kansas City, Mo. • Minneapolis, Minn. • Galesburg, Ill. • Richmond, Calif. • Birmingham, Ala. • Houston, Tex. • Burlington, Ont., Can.

SOYBEAN Council President Howard L. Roach (left) and Walter S. Kilpatrick, U. S. representative in Greece of Church World Service, in Athens. Mr. Roach is currently in India to implement an export market project there.

widely used in the United States, but practically unknown in Italy.

The plight came to the knowledge of the Soybean Council of America's Rome representative, Dominic J. Marcello, who immediately supplied whatever was available. However, this organization is not a commercial outfit, and serves only to spread information concerning the use and advantages of soybean products in the various parts of the world, and thus its stock is limited to samples only.

It was imperative to obtain additional supplies right away and Pan American World Airways offered to contact New York and rush the milk to the stricken baby. In fact, 32 pounds of this precious product were handed over to the father less than 24 hours after the airline officials in Rome had heard about this case.

Thanks to the soy milk and the quick action undertaken by the two organizations, the baby is now on its way to recovery from a state of utter prostration which seemed hopeless!

AMERICAN SOYBEAN ASSOCIATION

Discuss Market Problems In Minnesota Meetings

THE PROBLEMS of both export and domestic markets for soybeans as well as the problems of production are being tackled in a series of soybean seminars for soybean producers in the soybean growing areas of Minnesota in February and March.

The meetings are sponsored by the American Soybean Association, the county crop improvement associations and the Minnesota Extension Service.

Taking part in all meetings are ASA's two Minnesota directors, John W. Evans, Montevideo; and Charles V. Simpson, Waterville, who is vice president of the Association.

The story of the worldwide activities of the American Soybean Association and the Soybean Council of America in promoting export markets for soybeans is being told to Minnesota farmers.

And the problem of legal restrictions on soybean products, such as margarine, that continue in Minnesota even though a large part of the state's farmers have a bigger stake in soybeans than butter is also discussed.

Soybean oil production is now more than one and one-half times as great as the production of butterfat in Minnesota, official figures show.

Soybean fertilization and diseases, varieties and other problems of production are being reported on by Minnesota extension men.

Soybean Meetings to Memphis Aug. 22-23

JOINT ANNUAL meetings of the American Soybean Association and the National Soybean Processors Association will be held at the Hotel Peabody, Memphis, Tenn., Aug. 22 and 23, the program committees for both Associations have announced.

The conferences of the two Associations will run at the same time this year, with some joint sessions and some separate sessions, the program committees say. There will be one banquet for both Associations.

In recent years the two meetings have been held at the same hotel, with the American Soybean Association meeting immediately following that of the National Soybean Processors Association.

ASA and NSPA program committees will meet at Hotel Peabody in Memphis Mar. 29 to plan the two conferences.

Memphis has proved to be one of the more popular sites for soybean conventions. ASA met there in 1948. And the first joint meeting with the Processor Association was held there in 1954. Both previous meetings were at the Peabody.

Try Flame Cultivation

A FLAME cultivation experiment as a means of weed control is being tried on soybeans, cotton and other crops in 1960 by the High Plains Research Foundation, Halfway, Texas.

Find your BUTLER contractor here

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PARAGOULD, P. O. Box 461, Wonderstate Mfg. Co.
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WOODLAND, Davis Highway, P.O. Box 426
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GREELEY, 1817 9th St.,
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BRIDGEVILLE, O. A. Newton & Son Co.

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SIDNEY, P.O. Box 499, Shelby Mfg. Company

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PORTLAND, 708 Northeast Second Ave.
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PUBLICATIONS

Margarine Has Become Soy Oil's Best Customer

ONCE THE TARGET of farmer-inspired restrictive legislation, margarine manufacturers pointed out recently that they have become the farmer's best customers for the growing production of soybean oil and that the value of the soybean crop in some states exceeds the value of milk production.

Not only do margarine manufacturers buy $100 million or more worth of soybean oil annually, but their billion-pound-plus demand is a major factor bolstering the market for all farm-produced fats and oils.

The facts were brought out in a brochure just released by the National Association of Margarine Manufacturers entitled "Margarine and the Farmer."

"Twenty years ago soybeans were a curiosity in this country," said Siert F. Riepma, NAMM president. "Today soybeans are a leading cash crop on hundreds of thousands of farms. There can be no doubt that modern, improved margarine has a very important role in the success of this new source of cash income for the American farmer."

Margarine and the Farmer. Available without charge from National Association of Margarine Manufacturers, 545 Munsey Bldg., Washington 4, D. C.

Income from Soybeans in Thirty S. C. Counties

THIRTY counties in South Carolina reported income from soybeans in 1958. Total income reported was $10.8 million.

Four counties reported over $1 million each income from soybeans in 1958. The counties are Calhoun $2.2 million; Orangeburg $2.1 million; Allendale $1.2 million; and Hampton $1.19 million. All four leading counties are in the southwestern part of the state between Lake Marion and the Savannah River.

South Carolina—Cash Receipts from Farm Marketings. South Carolina Crop Reporting Service, U. S. Department of Agriculture, Clemson, S. C.

INOCULATE SOY BEANS

with

Urbana Culture

Superior Legume Inoculator

IT PAYS!

The Urbana Laboratories

Urbana, Illinois

Purchase or Merger in Fourth of Food Companies

TWENTY-SIX percent of the companies in eight food marketing industries either acquired or disposed of other businesses through purchase or merger from 1952 through 1958, according to a report issued by the U. S. Department of Agriculture.

A survey, representing all levels of food marketing, included 2,721 companies and covered vegetable and animal oils industries among others.

Ownership Changes by Purchase and Merger in Selected Food Industries. Marketing Research Report No. 369. Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

Later Maturing Varieties Best in West Virginia

LATER-MATURING varieties of soybeans have consistently given the best yields of seed and hay in West Virginia trials.

Recommended varieties for both seed and hay are Clark, Perry and Wabash. In addition, Lincoln is recommended as a seed bean, and Kingwa as a hay bean.

Soybean Variety Trials, 1948-1957. West Virginia University Agricultural Experiment Station, Morgantown, W. Va.

Soybeans Concentrated in Three N. Dak. Counties

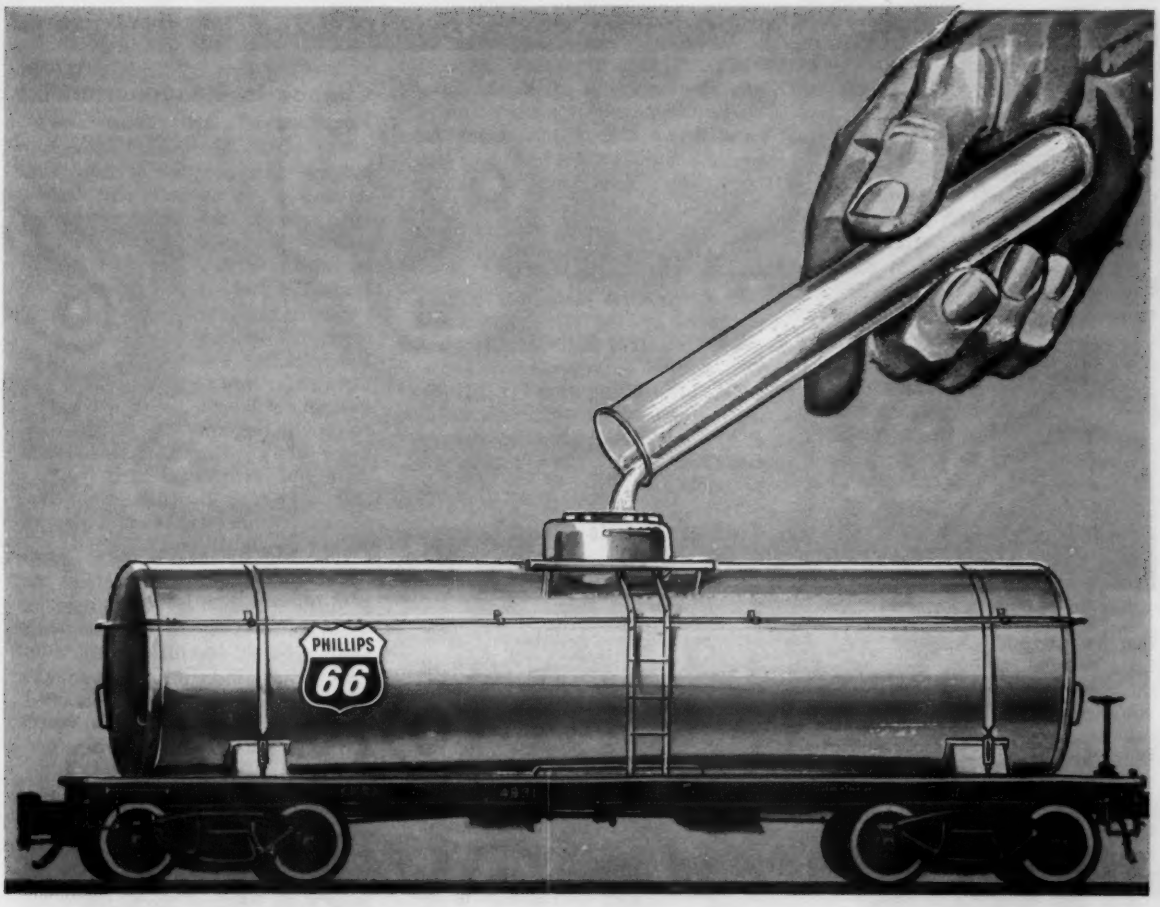
SOYBEAN production is still concentrated in three counties in North Dakota, in Richland, Cass and Traill in that order. Richland County is in the southeast district and Cass and Traill in the east central district.

Some soybean production is reported in all districts of the state, but is not large outside of the two above named districts.

North Dakota Flaxseed and Soybeans. Ag. Statistics No. 2. North Dakota Crop and Livestock Reporting Service, Box 31, Fargo, N. Dak.

Fatty Acid Composition of Several Varieties of Soybeans. By F. I. Collins and V. E. Sedgwick. Journal of American Oil Chemists' Society, December 1959, Vol. 36, No. 12, pages 641-648. 35 E. Wacker Drive, Chicago 1, Ill.

Lecithin: An Important Paint Additive. By William Brushwell. American Paint Journal, Oct. 5 and 12, 1959. 2911 Washington St., St. Louis 3, Mo.



Phillips High Purity* Normal Hexane

is the premium solvent for oil seed processing

Phillips modern production facilities, special handling procedures and stringent quality controls insure a uniform, premium quality solvent. And Phillips High Purity Normal Hexane costs no more than other Hexanes. Made especially for oil seed processing, this premium solvent gives you these extra benefits:

- **Light and Heavy components have been reduced.**
  - —Easier removal from oil and meal
  - —Better solvent recovery
- **Specific Gravity has been lowered.**
  - —Less heat required to vaporize
  - —Less coolant to condense
- **Sulfur and Benzene content have been reduced.**
  - —No residual odor
  - —Improved operations

For immediate delivery from one of many convenient shipping points, call or write today. Complete information and samples are available on request.

***85% Minimum Normal Hexane Content**

PHILLIPS PETROLEUM COMPANY

Special Products Division

Bartlesville, Oklahoma **Phone: FEderal 6-6600**

Steiner Named Swift Oil Mill Production Manager

Charles S. Steiner has been named to the newly created position of production manager of **Swift & Co.'s** oil mill department, with headquarters at the Chicago general office.

The appointment was in connection with the recent transfer of manufacturing responsibility for soybean mills and cottonseed mills from the general superintendent's office to the oil mill department.

Charles S. Steiner

Mr. Steiner has been head of the chemical engineering and process planning divisions of Swift's engineering research department.

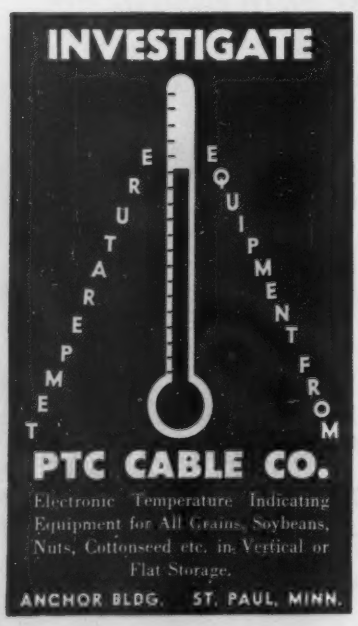
He started with Swift in 1945 at the research laboratories in Chicago, later went to the company's technical products plant at Hammond, Ind., for 5 years, then returned to Chicago.

He is a member of the American Institute of Chemical Engineers, and is listed in Who's Who in Engineering and Chemical Who's Who.

Albert Dickinson Co. to Relocate at Princeton, Ill.

The **Albert Dickinson Co.**, doing business in Chicago since 1854, plans to relocate its operations at Princeton, Ill., somewhat over 100 miles west. The new plant is now under construction and will be ready for the fall season of 1960. It will embody the latest in automation, streamlining operations to afford the best in service without sacrificing any safeguards that assure the ultimate in high-quality seeds.

The Princeton plant will carry a complete line of the legume and grass seeds used in the Midwest and East, as well as farm chemicals, bacterial cultures sold under the "Nodogen" brand, also its "Little Buster" and "Big Buster" brands of popcorn, according to L. C. (Larry) Ortt, vice president.


INVESTIGATE
EQUIPMENT FROM
PTC CABLE CO.
Electronic Temperature Indicating Equipment for All Grains, Soybeans, Nuts, Cottonseed etc. in Vertical or Flat Storage.
ANCHOR BLDG. ST. PAUL, MINN.

Fiedler Heads ADM's Soybean Division

Ray B. Fiedler, executive vice president of Api-Aba, feed manufacturing affiliate of **Archer-Daniels-Midland Co.** in Mexico, has been appointed manager of ADM's soybean division, it was announced by E. A. Olson, executive vice president, agricultural group.

Ray B. Fiedler

The soybean division, together with the linseed division, comprise ADM's oilseed operations, which are directed by Ralph Bruce, vice president.

Fiedler, whose new headquarters will be in ADM's general offices in Minneapolis, joined the company in 1956. Prior to his assignment to Mexico 2½ years ago he was manager of agricultural products development.

Appointment of John N. DeBoice as public relations director of the **A. E. Staley Manufacturing Co.**, Decatur, Ill., has been announced. He succeeds James H. Beaumont, who was named assistant corn division manager. Mr. DeBoice joined the Staley Co. in 1957 as editor of the Staley Journal, and has been assistant public relations director the past 2 years.

James C. Konen, vice president and director of research of **Archer-Daniels-Midland Co.**, will serve as a consultant to a Nebraska state committee studying utilization of agricultural products. He served 3 years ago on a national commission studying the same problem for President Eisenhower.

Change in Headquarters For Lee of Anderson Co.

The **V. D. Anderson Co.**, manufacturer and supplier of Expellers, solvent extraction units and related equipment, announces a change in address for Donald B. Lee.

Donald B. Lee

Formerly located in Portland, Ind., Mr. Lee will have his headquarters in Boone, Iowa. He is now servicing the states of North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin and Illinois.

The promotion of Raymond W. Pifer to the position of manager of Master Mix livestock feeds has been announced by **McMillen Feed Mills**, Fort Wayne, Ind. He previously was beef feeds manager. Named assistant manager of livestock feeds is Donald R. Fisher, who previously was assistant to the director of feed sales.

Harry B. Anderson, vice president and a director of **Merrill Lynch, Pierce, Fenner & Smith, Inc.**, has been elected acting president of the New York Produce Exchange.

The promotion of Joseph W. Hasler to assistant to the director of feed sales has been announced by **McMillen Feed Mills**, Fort Wayne, Ind. He joined McMillen in 1956.

National Cottonseed Products Association, Inc., will have its 64th annual convention at the Roosevelt Hotel, New Orleans, May 15-17, John F. Moloney, secretary-treasurer, has announced.

Blaw-Knox Co., chemical plants division, Pittsburgh, Pa., announces the promotion of V. J. Hostler to eastern manager, chemical plant sales, with headquarters in the company's New York office, 342 Madison Ave. His territory comprises the East Coast from New England to Maryland.

Ralph Melon has been appointed assistant advertising manager of **Dannen Mills**, St. Joseph, Mo. He formerly was farm director of Station KLIK, Jefferson City, Mo.

Decatur (Ill.) Sunday Herald and Review recently featured articles on the soybean crop and industry by Carle G. Simcox, president of the

American Soybean Association, and R. G. Houghtlin, president of the National Soybean Processors Association.

Dale W. McMillen, founder of **Central Soya-McMillen Feed Mills,** who was 80 years old Jan. 27, was honored by the Gibson City, Ill., community—site of a company processing plant — at an appreciation night program.

The Young President's Organization has elected to membership Thornton Kennedy, president **Davidson-Kennedy Associates,** Atlanta, Ga. To belong to YPO, a man must have risen to the presidency of a sizable corporation while still in his twenties or thirties.

Luther J. Pickrel, University of Minnesota, St. Paul, is member of a team of federal and state cooperative extension workers touring the Far East and Australia to study foreign trade developments and agricultural market requirements. The team left Jan. 29 and will return Mar. 7.

G. R. Peterson has left active management of **Pillsbury's** feed division, Clinton, Iowa. He will continue as a consultant to the division.

Panogen Co. has appointed J. E. (Jed) Driggers a sales representative for the company in Florida and the southeast United States. Before joining Panogen, Mr. Driggers worked in technical service for Merck & Co.

Grain elevator and processing superintendents from the United States and Canada will hold their 31st annual convention at the Jung Hotel, New Orleans, Mar. 13-18. The 6-day event is sponsored by the Grain Elevator & Processing Superintendents, Chicago.

Roger E. Varin, New York, widely experienced in the fields of international management, trade and marketing, has been named vice president of **Archer-Daniels-Midland Co.'s** overseas division. He will direct the company's export sales, including international fats and oils trading. For the past 3 years he has been director of international operations for Lehn & Fink Products Corp.

Frank D. Allen, Kansas City, Mo., has been promoted to manager of the equipment division of **Archer-Daniels-Midland Co.,** Richard G. Brierley, ADM executive vice president, announced. Allen for the past 2 years has been sales manager of the equipment sales department. ADM's equipment division designs, engineers and manufactures equipment for the formula feed, flour, chemical and alfalfa industries.

Richard A. Heidbreder, poultry Chow sales manager of the grainbelt region for **Ralston Purina Co.,** has been promoted to sales manager of the newly formed Sioux Falls division. He will headquarter in Sioux Falls, S. Dak.

A part of a recent issue of International Trail, publication of International Harvester Co., was devoted to the operations of **Central Soya Co.,** Fort Wayne, Ind.

Construction of facilities has begun on the 162-acre farm that was purchased recently by **McMillen Feed Mills,** Decatur, Ind., to make possible the expansion of McMillen feed research, according to Dr. W. W. Cravens, feed research director. Facilities currently under construction include four housing units for swine and two broiler houses. Future plans call for additional units to enable expansion of research on layers, turkeys and beef cattle.

Name of Midwest Burlap & Bag Co. has been changed to **Midwest Bag Co.,** 1401 Thomas Beck Road, Des Moines, Iowa, Harry Pomeranz, president, and Marvin Pomeranz, vice president, have announced.

Louis J. Pegrem, who for the past 7 years has been national manager of professional sales for the Gaines division of General Foods Corp., has rejoined **Ralston Purina Co.** as manager of Dog Chow sales in the Purina Chows division.

heavy volume SOYBEAN cleaning-scalping with... Clipper

32 different models and sizes of high capacity cleaners and scalpers — ranging up to the big Quad 6,000 bushels per hour Super 4488-DS

Your choice of both screen and fan arrangements — all models supplied in either wood or all-steel construction.

the Clipper line also includes:

Randolph Driers • Bucket Elevators—all sizes • Debearders • Cyclones • Vibrating Pits — Conveyors • Lift Master Pneumatic Conveyors and numerous other related items

ASK TODAY FOR THE *FREE* NEW CLIPPER GRAIN CLEANER CATALOG

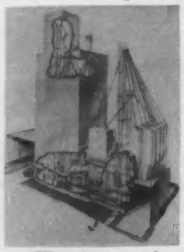
A. T. FERRELL & COMPANY
SAGINAW, MICHIGAN

CLIPPER
GRAIN • SEED AND BEAN CLEANERS

NEW PRODUCTS and SERVICES

FEED MILL. A new method of designing, engineering and constructing a complete feed mill tailored to your individual needs is outlined in a new booklet recently issued by the Myers-Sherman Co.

This booklet, entitled, "Let's Build a New Kind of Feed Mill," explains how feed mills of all types and sizes can be planned and built with maximum efficiency and economy.



The booklet shows how one organization can handle every facet of the job from the idea stage through completion. It describes the way in which Myers-Sherman designs and engineers a tailormade feed plant, plans its construction and arranges its financing through a variety of plans.

The types of mills described and illustrated include custom mills of different sizes and capacities, single-purpose mills for broiler or feedlot operations, combination plants for both custom milling and feed manufacturing, and large satellite mills for full-scale manufacturing operation.

For further information write Soybean Digest 3a, Hudson, Iowa.

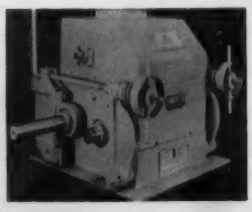
DIESEL TRACTOR. J. I. Case Co. is invading the smaller diesel tractor market with a "revolutionary new Dynaclonic diesel."

Case has incorporated this engine in its three smaller tractors in the three to four plow bracket. The smallest of the three, the three-plow 430, is the first small diesel to be produced wholly in the United States and Case believes it has the competitive answer in price and performance to the current influx of foreign imports.

For further information write Soybean Digest 3b, Hudson, Iowa.

MILL ROLLS. A new roller mill with rolls so tough they're guaranteed for 10 full years has been introduced recently to the feed trade by Myers-Sherman Co.

The new addition to their line of Fords Products carries a 2-year overall guarantee on all parts in addition to the 10 years specified on the solid chilled cast iron rolls, which are so hard a file won't cut them.



All rolls are corrugated to individual needs or specifications. They can be furnished to crack or grind grains to any degree of coarseness. All finished feed is processed to uniform particle size with a minimum of dust or fines.

This rugged mill is available in a large number of sizes and models with capacities from 800 to 40,000 pounds per hour.

For full details write Soybean Digest 3c, Hudson, Iowa.

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Soybean Market Forecast Weekly

You are invited to receive this new price advisory service — covering SOYBEANS, SOYBEAN MEAL and OIL — for the next 30 days without cost or obligation. The service brings you —

. . . Review of developments in futures market together with forecast of probable price action over the near-term.

. . . Technical analysis of price action based on Line Charts, Point & Figure Charts, Moving and Cumulative Averages.

. . . Specific buy or sell recommendations for trading the futures market.

. . . Collect night letters, if you wish, at apparent important market turning points.

Regular rates for the SOYBEAN MARKET FORECAST WEEKLY are $150.00 a year; or $85.00 for six months. However, to introduce the service, we will be pleased to send it to you for 30 days without cost or obligation.
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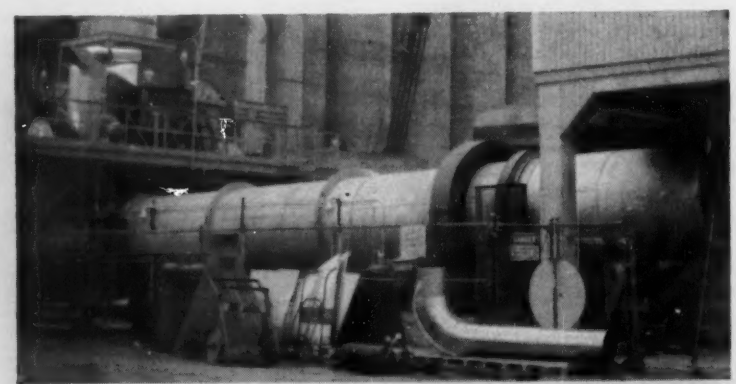

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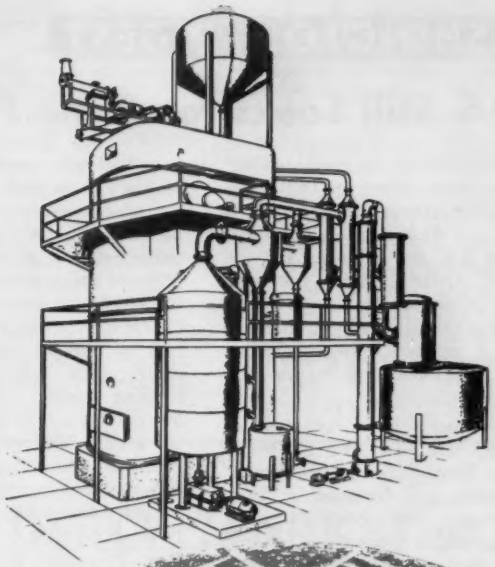

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F028

WASHINGTON DIGEST

USDA Still Looks for Some Price Rise

By PORTER M. HEDGE
Washington Correspondent for The Soybean Digest

THE BEAN PRICE at planting time will have more effect on 1960 acreage than the support price, which is unchanged at $1.85 a bushel, national farm average, the same as for the 1959 crop. Officials think the drop in corn price support to $1.06 a bushel may contribute to an increase of 1 to 2 million acres in beans, bringing them back up to the 1958 level.

Price supports have meant little in markets the past year for beans and flax. Beans have averaged over $2 a bushel, and flaxseed, in very short supply, has averaged some $3.05 a bushel compared to support of $2.38. Cottonseed prices have run only a little above support.

Peanut price supports for the 1960 crop have been increased from $193.50 a ton to $201.24. This is the only 1960 price support which Secretary Benson has raised. It's due to a short crop and a higher percentage of damage, resulting in a smaller carryover of suitable peanuts. USDA says also that domestic and foreign demand for peanuts for crushing in oil and meal is unusually strong because of short supplies elsewhere in the world. Prospects are that CCC costs will be minimized by sale of lower grades during this marketing year.

If USDA's estimates of the crush and exports are about right—and officials haven't seen fit to change them since the outlook report of late last fall—the trade will be buying beans from CCC before the year is out. It should mean that bean prices will stay up and rise moderately, though not a full seasonal spring rise because of the high harvest time price last fall. But up enough, some officials think, to justify a producer to hold to his beans for a while.

The big factor in bean prices the rest of this season is CCC's sales price policy since last Oct. 1. The present policy, effective through March at least, is to sell at not over 20¢ a bushel above support. The old policy was to sell at support plus 5¢ a bushel and carrying charges.

Under the old policy, the relatively small amount of beans under loan Jan. 31—only 48 million bushels compared to 124 million a year ago —would be price depressing. Not so under the new policy, which it is suspected will continue after March.

Administration Policy

The Administration remains adamant in its farm price policy of lower support prices and an early end to acreage allotments.

President Eisenhower, in his annual farm message to Congress, modified the Benson-inspired tough language in deference to protests of Republican senators, but stuck to his theme that "the best cure for low farm prices is more low farm prices." He appeared to be waving an olive branch to the remnants of the old Farm Bloc, but actually he didn't budge a bit.

House agriculture committee started hearings Feb. 29 on new farm legislation, leading off with wheat. The first effort is a bill giving farmers the choice between 90% of parity price support and tight controls, or the Administration plan. Failing in that, committee leaders will try the new 1960 proposal of National Wheat Growers Association, backed by seven other farm organizations, including Grange and Farmers Union.

This would prohibit CCC wheat sales at less than parity price, and allot domestic and foreign need among producers except that 150 million bushels of total need would come out of CCC stocks, thus reducing surplus. There would be no price support loan program, and no further wheat acquisition by CCC.

The impression of observers is that Secretary Benson will insist on following to the letter all three of the President's "guidelines" in seting price supports, and then when that is done any program would be what he's already proposed.

The President's guidelines in a farm price support program:

(1) Price support realistically related to any production controls Congress may establish.

(2) Price support not so high as to reduce domestic markets, and encourage further excessive production.

(3) Avoid direct subsidy payments for crops in surplus, and programs which would invite harmful counter measures by our friends abroad, or while seeking to aid one group of farmers would badly hurt another group. The effect of this third guideline would be to okay sugar and wool payments, and outlaw two-price wheat plans. Strictly interpreted, he would oppose any plan that would make wheat prices competitive with corn and feed grains, but this is what his wheat plan proposes.

Future Program

The congressional retort of Democrats to the President's farm message was a bill sponsored by 16 House

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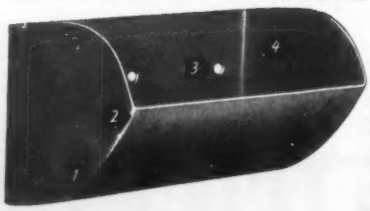

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members headed by Poage of Texas. At least this was what some of the press said. Actually the House bill, sponsored by Democrats from Ohio to California, had been a long time in the making and represented the feeling of northern Democratic liberals as to what ought to be done about the farm program—and help them get reelected.

The bill is similar in approach to a recent one by Senator Symington of Missouri, who played up and refined the approach proposed late last summer by Senator Humphrey of Minnesota.

The central approach in this: Authorize the Secretary of Agriculture to use practically all price-lifting tools in constructing commodity farm programs in cooperation with elected farmer committees. If they can agree on anything, submit it to a vote of farmers. If two-thirds approve, put it into operation.

The House bill would ban price support loans and any further acquisition of farm products by CCC. It would also ban government purchases to lift farm prices, as in the dairy program. But any present program would remain in effect until changed by a vote of farmers.

Costs would be limited to 5% of the cash receipts for the commodity the previous year.

The aim of the bill is to lift and stabilize farm prices by controlling marketings, and back of marketings, production. Price support would be underwritten by production controls, but only to a degree—not above anything that would cost more than 5% of the returns of the previous year.

Press talk that this is another "Brannan Plan" is a result of faulty analysis of the bill. The bill would approve direct payments to farmers as permissive, but the cost limitation for commodities is so strict that payments would be small. The aim is to lift prices through controls. If this fails, the program would fail.

A clever gadget in the House bill is providing $500 million a year to buy high protein foods (chiefly meat, milk, eggs) for donation to the poor. On good economic authority, the sponsors say that for every $2 spent at retail for high protein foods, one bushel of feed grains is consumed. Therefore, taking $500 million off the commercial market for high protein foods annually would mean the reduction of grain surpluses by 250 million bushels a year.

If a wheat bill isn't reported out of the House agriculture committee, a general farm bill such as the one outlined above may go to the floor. It has a 50-50 chance of passing House and Senate. It would be vetoed, observers think.

But it may approximate the farm program of the future, if there is any continuing program. The two essentials in a workable farm bill are marketing controls and something acceptable to cities. It is not sure that anything meeting these requirements will be worked out.

Canadian Margarine

CANADIAN margarine production totaled 152.5 million pounds in 1959, up 5% from the 145.6-million-pound output, according to the Dominion Bureau of Statistics, as reported by Foreign Agricultural Service, U. S. Department of Agriculture.

Shortening production last year—at 160.1 million pounds—was down 3.2 million pounds from 1958.

Much larger quantities of soybean and cottonseed oils were used in making shortening and margarine in 1959; they largely replaced coconut, palm, and marine oils. The more competitive position of soybean and cottonseed oils probably accounts for the shift.

ORDERLY MARKETING OF SOYBEANS

ASSURES A SOUND INDUSTRY

The general technique of moving soybeans through the normal channels of trade by government assistance in the marketing of the oil fraction is of tremendous significance. It is vastly superior to the system devised primarily for grains and cotton of government *loans and CCC acquisitions*, for the following reasons:

1—The increase in net farm income is greater than any possible government costs.

2—More soybean meal is available at reasonable prices, thus providing better balanced rations and better net returns to livestock and poultry producers.

3—The soybean crop moves into consumption and not into government storage.

4—Exporters and importers of soybeans are commercial buyers in the open market—not "bargain hunters" from government hoards.

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Blytheville—Glen A. Cook, Rt. 4, Box 235, 1,800 bu. Arkansas Blue Tag Lee; 1,000 bu. Arkansas Blue Tag Ogden; 400 bu. Arkansas Blue Tag Hood; 400 bu. Arkansas Blue Tag Dorman.

Burdette—G. A. Hale, Hale Seed Farms, 8,000 bu. registered Hale Ogden No. 2.

Frenchmans Bayou—Gibson & Hall, P.O. Box 116, 800 bu. certified Dorman; 2,000 bu. uncertified Lee; 200 bu. certified Hood.

Grubbs—Denton Brothers, Inc., 4,000 bu. registered and certified Hood.

Jonesboro—Mode Gregory, 1311 W. Matthews, 600 bu. registered Hood.

Stuttgart—Jacob Hartz Seed Co., Inc., Box 109, registered Hood; registered Lee; registered and certified Jackson; certified Ogden; certified Dorman; all varieties non-certified.

Wilson—Lee Wilson & Co., seed and chem dept., certified Lee.

Wynne—Holleman Seed Service Co., Rt. 1, Box 129, 4,000 bu. certified Lee; 4,000 bu. certified Jackson; 1,000 bu. registered Hood; also uncertified Lee and Jackson.

ILLINOIS

Fairmount—Trisler Seed Farms, Inc., 2,000 bu. certified Wabash; 1,300 bu. certified Lincoln; 2,000 bu. certified Shelby; 2,000 bu. certified Harosoy; 500 bu. certified Hawkeye; 500 bu. certified Adams.

Gibson City—Noble Brothers Seed Co., good stocks certified Clark; certified Shelby; certified Lindarin; certified Hawkeye; certified Harosoy; certified Adams; uncertified Clark, Harosoy, Lincoln, Adams and Hawkeye.

Mundelein—Huebsch Seed Farms, 135 Midlothian Rd., 2,000 bu. certified Hawkeye; 1,000 bu. certified Harosoy.

Pontiac—Wilken Seed Grain Co., Rt. 4, 5,000 bu. certified and uncertified Harosoy; 3,500 bu. certified and uncertified Hawkeye; 1,500 bu. certified and uncertified Adams; 2,500 bu. certified Shelby; 400 bu. certified Lindarin.

Ridgway—Jones Farm Store & Elevator, 8,000 bu. Kingwa hay beans; 5,000 bu. Virginia hay beans, packed in 2-bu. bags; 40,000 bu. certified and uncertified Clark.

San Jose—Kelly Seed Co., 3,000 bu. certified Hawkeye; 4,000 bu. certified Harosoy; 3,000 bu. certified Clark; 5,000 bu. registered No. 1 Shelby.

Sullivan—Landers Seed Co., registered I Shelby; registered II Harosoy; certified Hawkeye; certified Adams; also uncertified of above varieties and Clark.

INDIANA

Lafayette—Agricultural Alumni Seed Improvement Association, Inc., Rd. 52 N., foundation seed for certified production of Shelby, Lindarin and Clark.

Mt. Vernon—Naab Farm Seeds, Rt. 2, 3,000 bu. certified Shelby.

Valparaiso—Wyckoff Hybrid Corn Co., certified Chippewa; certified Blackhawk; certified Harosoy; certified Hawkeye; uncertified Monroe.

Walton—Geo. M. Hopper, Hopper Farms, Rt. 2, 600 bu. certified Harosoy.

IOWA

Conroy—Henry G. Plagmann, Jr., 700 bu. certified Ford, 92% germ.

Grand Junction—Edward Bechard, 1,000 bu. certified Ford in 1-bu. bags.

Hudson—Strayer Seed Farms, 1,200 bu. certified Ford; 500 bu. certified Kanrich (vegetable); 600 bu. certified Kim (vegetable).

Laurel—Vern Seitmann or Bert Benskin, certified blue tag Ford, packed in new 1½ bu. bags. Special Price.

Lynnville—Lynnville Seed Co., 4,000 bu. uncertified Lincoln; 4,500 bu. uncertified Adams; 5,000 bu. uncertified Clark; 3,000 bu. certified Ford; 10,000 bu. uncertified Hawkeye.

Marcus—Sand's Seed Service, 20,000 bu. certified Hawkeye; 40,000 bu. uncertified Hawkeye; 3,000 bu. uncertified Chippewa.

Minburn—E. Howard Hill, 1,000 bu. certified Ford, phone Ken Joslin, 12R15.

Ogden—Clarence E. Carlson, Rt. 1, 700 bu. certified Ford.

Union—Merle Stanfield, Rt. 1, 1,500 bu. certified Ford.

Washington—Frank J. Patterson, Rt. 4, 800 bu. Iowa B. T. certified Ford.

MARYLAND

Silver Spring—Dr. Donald R. Bianco, 212 Indian Spring Drive, 1,200 bu. registered Hill.

MINNESOTA

Bird Island—A. A. Ziller, 200 bu. certified and registered Ottawa Mandarin; 200 bu. certified and registered Capital; 400 bu. certified and registered Grant; 400 bu. certified and registered Norchief; 300 bu. certified Comet; 1,000 bu. certified and registered Chippewa; 300 bu. uncertified Acme.

Hanska—J. H. Schrooten, Rt. 1, 2,500 bu. certified and registered Chippewa; 2,000 bu. uncertified Chippewa; 2,000 bu. certified Harosoy; 1,600 bu. uncertified Harosoy; 600 bu. certified Comet; 500 bu. certified Ottawa Mandarin; also certified Hawkeye, Norchief, Acme, Crest and Ford.

Hastings—Henry Trapp, Rt. 2, 500 bu. uncertified Chippewa.

Lake Crystal—Wayne Othoudt, 400 bu. registered Blackhawk; 70 bu. certified Ottawa Mandarin; 250 bu. registered Grant; 500 bu. certified Chippewa; 100 bu. registered Comet.

MISSISSIPPI

Hattiesburg—Leo W. Klarr, Ellkay Farms, Rt. 1, Box 184, 8,000 bu. certified Jackson.

MISSOURI

Hayti—Jacob Van Dyke, Rt. 1, Box 443, 1,000 bu. registered and certified Hood.

Louisiana—Farm Supply Co., certified Shelby; certified Clark.

McCredie—Wise Bros., 5,000 bu. registered Shelby.

Monticello—Hilburn Fishback, 750 bu. certified Shelby; 750 bu. uncertified Shelby.

Sikeston—Dye Seed Service, Box 468, limited number registered Hill; truckload lots registered Hood.

NEBRASKA

Elk City—Wahlgren Seed Farms, 1,200 bu. certified Ford; 1,500 bu. certified Clark.

Rising City—Wm. A. Miller, Rt. 1, 900 bu. certified Ford.

West Point—Fred A. Meyer, Rt. 2, Box 98, 90 bu. certified Ford; 175 bu. certified Harosoy; 50 bu. uncertified Chippewa.

NORTH CAROLINA

Aberdeen—D. P. Troutman, 407 N. Popular St., 500 bu. registered Hill.

Selma—Gurley Milling Co., Box 488, 5,000 bu. uncertified Lee; 2,500 bu. certified and registered Lee; 5,000 bu. uncertified Jackson; 1,000 bu. certified Jackson; 1,000 bu. certified Hood; 500 bu. certified Hill; 2,500 bu. uncertified Roanoke; 1,000 bu. uncertified Ogden; 3,000 bu. uncertified J.E.W. 45; 2,500 bu. uncertified C.N.S. 4 and 24; 500 bu. Wood's Yellow; 500 bu. Tokyo and other varieties.

OHIO

Covington—Ebberts Field Seed Co., 15,000 bu. uncertified Hawkeye, 90% germ.

Green Springs—Ohio & Michigan Seed Co., Box 28, truck or less truck lots certified Hawkeye, Lincoln and Harosoy.

Hillsboro—Arthur Roy Kinzer, Rt. 3, 100 bu. uncertified Shelby.

Mechanicsburg—Scott Farm Seed Co., 2,000 bu. certifed Clark.

SOUTH CAROLINA

Mayesville—W. R. Mayes, Box 46, 2,000 bu. certified Jackson; 3,000 bu. uncertified Jackson; 1,000 bu. certified Coker's Yelnanda.

St. Matthews—L. B. Wannamaker Seed Co., Box 194, Lee, Jackson, C.N.S. 4 and J.E.W. 45, certified and uncertified, large quantities.

TENNESSEE

Halls—William G. Spence, Rt. 3, 2,000 bu. certifed Hood, 1,000 bu. uncertified Ogden.

Memphis—Denning & Caldwell, 3461 Highland Cove, 600 bu. certified Hood.

VIRGINIA

Clay Bank—Louis Groh & Son, Inc., 10,000 bu. uncertified Lee; 8,000 bu. uncertified Black Wilson; 5,000 bu. uncertified Ogden; 10,000 bu. uncertified Hood; 3,000 bu. certified Hood; 2,000 bu. certified Hill.

Norfolk 15—Davis Grain Corp., Box 7595, certified Hood, Lee, Ogden.

WISCONSIN

Colfax—E. F. Meyers, Rt. 2, 240 bu. certified Chippewa.

Kenosha—Iverson Seed Service, Rt. 4, Box 720, 2,000 bu. certified Blackhawk; 1,000 bu. certified Chippewa.

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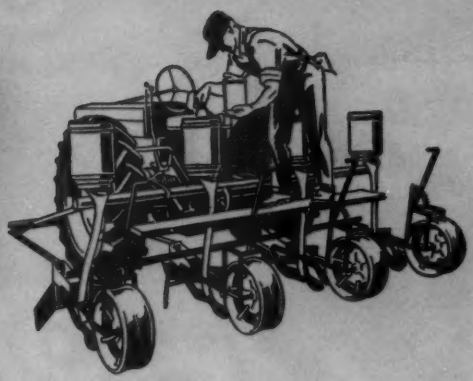

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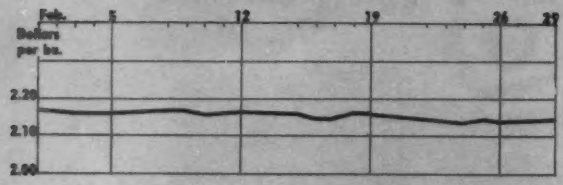
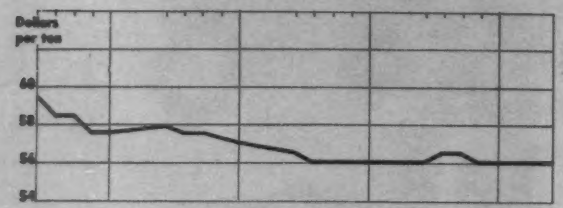
DAILY MARKET PRICES

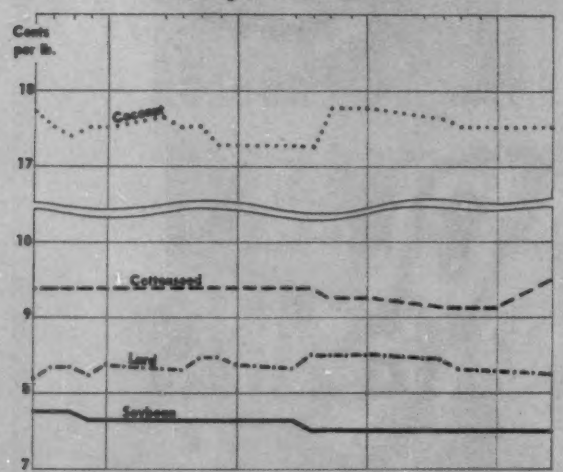
No. 1 Cash Soybeans, Chicago



Bulk Soybean Oil Meal, Decatur



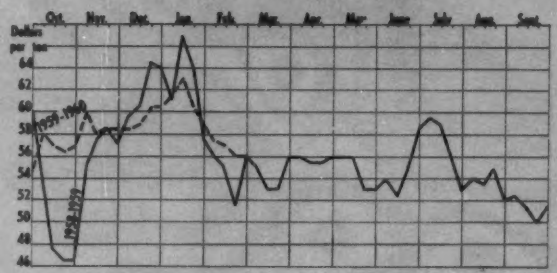
Crude Vegetable Oils and Lard



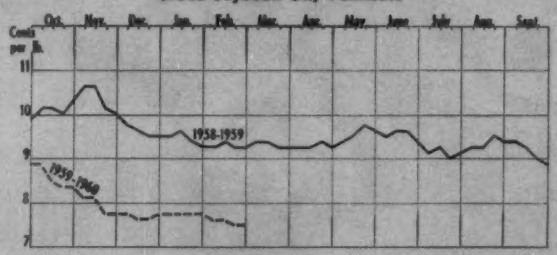
TRENDS AT A GLANCE (Weekly Close)

No. 1 Cash Soybeans, Chicago

Bulk Soybean Oil Meal, Decatur



Crude Soybean Oil, Tankcars



February Markets

ALL MARKETS were draggy and weaker in February, particularly soybean meal. Small country offerings of soybeans—insufficient to meet daily processing requirements—were offset by a lagging demand for meal and mounting supplies of oil.

Factors in the markets included:

1—The revision downward by USDA of high 1959-60 soybean export figures to date combined with a poorer export showing in February.

2—Reports of curtailment of processing operations due to poor feeding ratios and low processing margins and a Bureau of Census report showing a smaller crush in January than in January 1959.

3—Drying up of Commodity Credit Corp. sales of soybeans due to the lower bean market. Remaining CCC inventories at Chicago and Evanston were estimated at about 7 million bushels late in February.

4—Report of a smaller volume of soybeans under support as of Jan. 31 as compared to a year ago.

There were reports that some farmers were feeding wet corn rather than buying protein concentrates.

BYPRODUCTS. The price of soybean acid soapstock advanced from 4½¢ to 5¢ a pound in February. Raw soybean soapstock remained at 1½¢.

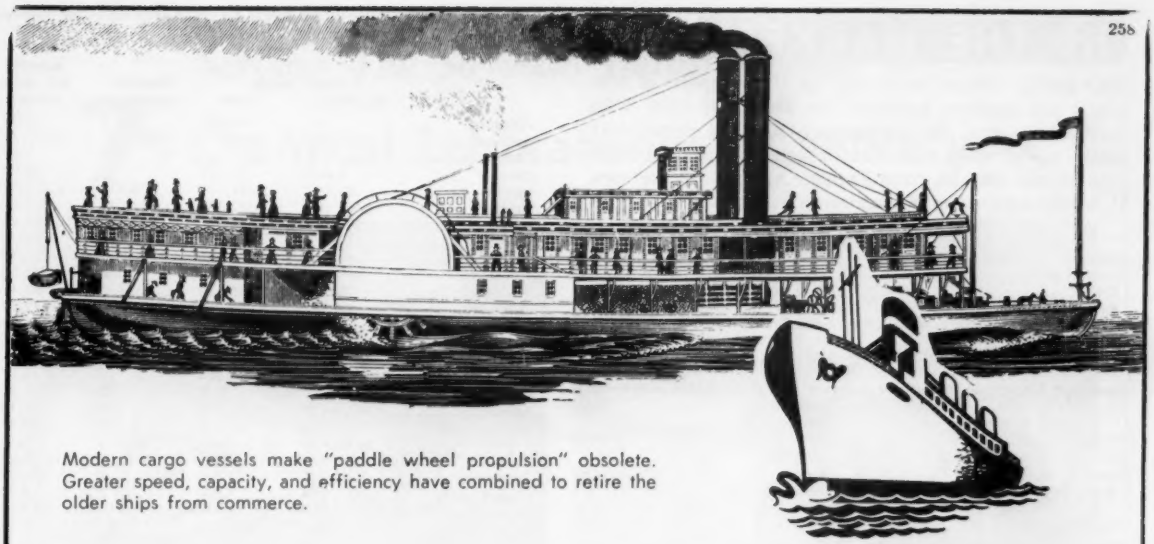
1958 AND 1959 SOYBEAN CROPS

	1959	1958
Total soybeans placed under price support through Jan. 31	47,853,930 bu.	124,304,620 bu.
Total soybeans withdrawn from support as of Jan. 31	1,245,746 bu.	
Total 1958-crop soybeans under reseal Jan. 31	13,617,786 bu.	
Soybeans crushed Oct. 1-Jan. 31	139,077,000 bu.	138,122,000 bu.
Soybeans exported Oct. 1-Jan. 31	60,141,000 bu.	47,354,000 bu.
Balance on hand Feb. 1 for processing, export or carryover	370,067,000 bu.	387,320,000 bu.
Total soybeans inspected for overseas export plus lake shipments to Canada Oct. 1-Feb. 19	65,461,755 bu.	53,628,810 bu.

CASH PRICES, FEBRUARY 1960*

Feb.	No. 1 yellow soybeans Chicago	Bulk soybean meal Decatur	Soybean oil Decatur	Cottonseed oil Mississippi Valley	Coconut oil Pacific Coast	Lard Chicago
1	$2.17	$59.50	$.07¾	$.09⅜	$.17¾	$.0817
2	2.16¾	58.50	.07¾	.09⅜	.17½	.0832
3	2.16	58.50	.07¾	.09⅜	.17⅜	.0832
4	2.15¾	57.50	.07⅝	.09⅜	.17½	.0822
5	2.15¾	57.50	.07⅝	.09⅜	.17½	.0835
8	2.16¾	58.00	.07⅝	.09⅜	.17⅝	.0830
9	2.16½	57.50	.07⅝	.09⅜	.17½	.0830
10	2.15¼	57.50	.07⅝	.09⅜	.17½	.0845
11	2.15¾	57.25	.07⅝	.09⅜	.17¼	.0845
12	2.16	57.00	.07¾	.09⅜	.17¼	.0835
15	2.15¼	56.50	.07⅝	.09⅜	.17¼	.0830
16	2.14¼	56.00	.07½	.09⅜	.17¼	.0850
17	2.14½	56.00	.07½	.09¼	.17¾	.0850
18	2.15¾	56.00	.07½	.09¼	.17¾	.0850
19	2.15½	56.00	.07½	.09¼	.17¾	.0852
23	2.13¾	56.00	.07½	.09⅛	.17⅝	.0842
24	2.13¼	56.50	.07½	.09⅛	.17½	.0830
25	2.14	56.00	.07½	.09⅛	.17½	.0830
26	2.13½	56.00	.07½	.09⅛	.17½	.0830
29	2.14¼	56.00	.07½	.09½	.17½	.0825

* From Wall Street Journal, Chicago.



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IN THE MARKETS

EXPORTS. Preliminary data on U. S. exports of soybeans and soybean products for December 1959, with comparable data for December 1958 and cumulative totals for October-December in the marketing years 1958-59 and 1959-60, from Foreign Agricultural Service, U. S. Department of Agriculture.

	Unit	December 1958	December 1959	October-December 1958-59	October-December 1959-60
Soybeans	bu.	10,196,812	18,138,174	38,038,448	50,641,441
Soybean oil:					
Crude	lb.	8,124,783	25,200,180	67,388,055	81,866,586
Refined but not further processed	lb.	4,991,362	3,456,341	10,964,932	17,641,157
Refined, deodorized and hydrogenated	lb.	57,023,725	4,581,411	88,571,370	17,506,945

Soybeans: Inspections for export by ports and Great Lakes shipments, January 1960 (1,000 bu.)

Atlantic			
Philadelphia	299	Mobile	1,083
Baltimore	766	Port Allen	2,098
Norfolk	478	Subtotal	7,715
Subtotal	1,543	Totals	
Gulf		January 1960	9,258
New Orleans	4,534	January 1959	8,547

Based on weekly reports of inspections for export by licensed inspectors and does not include rail or truck movement to Canada or Mexico.

Soybeans: Inspections for export by coastal areas and country of destination, January 1960 (1,000 bu.)

Atlantic			
Netherlands	85	Netherlands	1,271
France	308	Belgium	359
Taiwan (Formosa)	349	West Germany	969
Japan	745	Italy	421
Other	56	Israel	491
Subtotal	1,543	Korea	273
Gulf		Japan	3,110
Cuba	123	Subtotal	7,715
Denmark	698	Total Jan. 1960	9,258
		Total Jan. 1959	8,547

Based on weekly reports of inspections for export by licensed inspectors and does not include rail or truck movement to Canada or Mexico. In some cases, the ultimate destination of the soybeans exported is not shown on the inspection reports. Therefore, the quantity for each country may vary from official Census data which are based on custom declarations.

Cottonseed and soybean oils and lard: Exports under Title I, P. L. 480 programs, and total exports, October 1954-December 1959 (million pounds)

	Oct. 1-Sept. 30					Oct. 1-Dec. 31	
	1954-55	1955-56	1956-57	1957-58	1958-59	1958	1959
Exports under P. L. 480							
Cottonseed	117	291	55	97	141	1	44
Soybean	....	279	495	592	747	166	60
Total oils	117	570	550	689	888	167	[1]104
Lard	....	112	65	3	....	....	....
Total exports:							
Cottonseed	710	611	423	248	404	38	[2]161
Soybean	50	557	807	803	941	167	[2]109
Total oils	760	1,168	1,230	1,051	1,345	205	270
Lard	528	663	530	394	535	105	[2]214

[1] P. L. 480 exports are reported according to the month in which the bill of lading was dated. [2] December exports estimated.

Title I, P. L. 480 exports for July 1959-January 1960

	January 1960		July 1959-January 1960	
	Metric tons	Quantity in pounds	Metric tons	Quantity in pounds
Cottonseed oil	.....	.....	51,634	113,834,000
Soybean oil	2,635	5,809,000	138,125	304,513,000

Foreign Agricultural Service, U. S. Department of Agriculture.

PRICE SUPPORT. Quantities of 1959-crop soybeans put under support through January 1960, compared to total put under through January a year earlier. From Agricultural Marketing Service (bushels).

Warehouse-stored loans	Farm-stored loans	Purchase agreements	Total put under support through Jan. 31, 1960	Total put under support through Jan. 31, 1959
18,923,936	23,936,526	4,993,468	47,853,930	124,304,620

Of the quantities put under farm- and warehouse-stored loans, producers had redeemed 1,245,746 bushels of soybeans. Farmers had resealed 13,617,786 bushels of 1958-crop soybeans for another year through 1960 loan maturity date.

1959-crop soybeans put under support during the months of January 1960 and December 1959 compared to 1958 crop put under during January 1959 (bushels)

January 1960	December 1959	January 1959
15,002,258	10,742,393	26,620,672

Loan and purchase agreement totals for 1959-crop soybeans through Jan. 31, 1960 (bushels)

	Loans stored		Purchase agreements	Total quantity put under support
	Warehouse	Farm		
Alabama	0	33,097	0	33,097
Arkansas	758,786	1,360,830	3,292,757	5,412,373
Delaware	0	348	700	1,048
Georgia	2,049	23,925	0	25,974
Illinois	4,287,747	3,429,709	576,930	8,294,386
Indiana	447,907	1,308,255	31,278	1,787,440
Iowa	6,580,814	9,158,425	513,993	16,253,232
Kansas	156,736	535,212	14,754	706,702
Kentucky	40,888	100,292	0	141,180
Louisiana	0	22,283	4,000	26,283
Michigan	23,333	65,543	6,620	95,496
Minnesota	3,098,341	3,529,930	251,724	6,879,995
Mississippi	494,070	495,973	1,657	991,700
Missouri	1,986,908	2,001,379	106,371	4,094,658
Nebraska	67,176	255,189	34,776	357,141
New Jersey	375	2,904	0	3,279
New Mexico	576	0	0	576
New York	0	789	0	789
North Carolina	0	37,916	6,000	43,916
North Dakota	89,968	301,606	83,908	475,482
Ohio	519,857	839,889	13,550	1,373,296
Oklahoma	75,303	33,045	0	108,348
Pennsylvania	410	1,790	0	2,200
South Carolina	106,932	167,570	0	274,502
South Dakota	21,381	102,258	7,850	131,489
Tennessee	138,057	83,417	42,950	264,424
Texas	24,719	15,337	0	40,056
Virginia	0	16,092	0	16,092
Wisconsin	1,603	13,523	3,650	18,776
Total bushels	18,923,936	23,936,526	4,993,468	47,853,930

PRICES. Average prices for soybeans received by farmers, effective parity, and support rates, reported by Agricultural Marketing Service (dollars per bushel).

Average farm price			Effective parity	Av. price as percent of parity	National average price support rate		
Jan. 15, 1960	Dec. 15, 1959	Jan. 15, 1959	Jan. 15, 1960	Jan. 15, 1960	1959 crop	1958 crop	1957 crop
2.01	1.98	2.02	2.91	69	1.85	2.09	2.09

Average farm and parity prices from crop reporting board.

Soybean prices compared with market value of soybean oil and soybean meal

	Soybean oil		Soybean meal		Value of oil and meal from bushel of soybeans[1]	Market price No. 1 yellow soybeans Ill. pts.	Spread between soybean price and value of oil and meal
	Average price at crushing plant	Value from bu. of soybeans[1]	Bulk price at Decatur	Value from bu. of soybeans[1]			
	Cts. per pound	Dollars	Dollars per ton	Dollars	Dollars	Dollars per bu.	Cents
Jan. 1960	7.7	0.85	61.50	1.45	2.30	2.11	19
Dec. 1959	7.7	0.85	58.70	1.38	2.23	2.08	15
Nov. 1959	8.0	0.88	58.50	1.37	2.25	2.09	16
Oct. 1959	8.6	0.95	56.60	1.33	2.28	2.01	27
Sept. 1959	9.1	1.00	51.70	1.21	2.21	1.98	23
Jan. 1959	9.4	1.03	63.25	1.49	2.52	2.12	40

[1] Based on assumption that a bushel of soybeans yields 11.0 pounds of oil and 47.0 pounds of meal. Note: This table is for statistical comparison only. It does not reflect actual operating margins since prices are simple averages and do not take into account location differentials or actual purchases and sales of soybeans, soybean oil or soybean meal.

MELLORINE. Production of mellorine and other frozen desserts made with fats and oils other than milkfat in the United States was estimated at 2,535,000 gallons in January, reports Agricultural Marketing Service. This was 9% more than in January 1959 and 36% above the 1954-58 average for the month. The January output was virtually unchanged from the preceding month although production generally shows a sharp seasonal advance between December and January.

Compared with January a year ago, mellorine production was up sharply in Missouri, South Carolina, Texas and Oregon.

Production of "mellorine-type" frozen desserts, United States, 1960

	1954-58 average[1]	1958[1]	Estimated 1959	1960	Change from 1954-58 av.	Change from 1959
	Thousand gallons				Percent	
January	1,861	2,238	2,325	2,535	+36	+9

[1] From enumerations.

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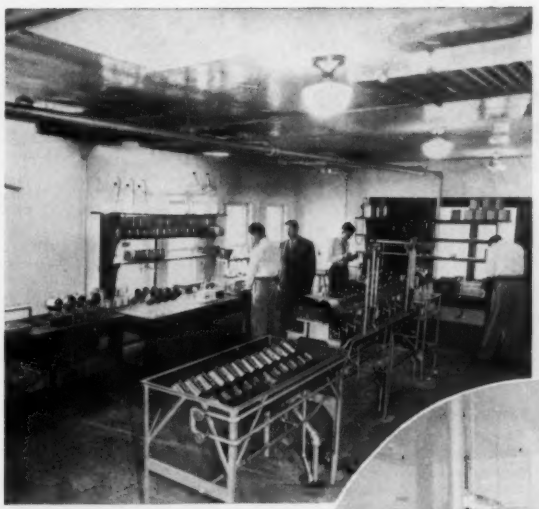

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TERMINAL STOCKS. Agricultural Marketing Service's commercial grain stocks reports for close of business on Friday or Saturday preceding date of report (1,000 bu.)

	Dec. 22	Dec. 29	Jan. 5	Jan. 12	Jan. 19	Jan. 26
U. S. soybeans in store and afloat at domestic markets						
Atlantic Coast	4,139	6,351	6,865	7,315	7,854	8,024
Gulf Coast	3,565	2,160	3,752	3,318	2,273	2,429
Northwestern	3,998	4,225	4,504	4,642	4,713	4,791
Lower Lake	15,882	14,007	16,305	15,840	15,663	15,439
East Central	10,853	10,518	9,920	9,596	9,276	8,662
West Central and Southwestern	4,999	5,086	5,092	5,077	5,020	4,891
Total current week	43,436	42,347	46,438	45,788	44,799	44,236
Total year ago	45,918	45,226	45,186	42,965	42,407	41,280
U. S. soybeans in store and afloat at Canadian markets						
Total current week	220	153	99	163	85	50
Total year ago*	332	287	617	559	530	492
Total stocks in above positions						
Current week	43,656	42,500	46,537	45,951	44,884	44,286
Year ago	46,250	45,513	45,803	43,524	42,937	41,772

* Revised

Primary receipts (1,000 bu.) of soybeans at important interior points for week ending:

	Dec. 18	Dec. 24	Dec. 31	Jan. 8	Jan. 15	Jan. 22
Chicago	647	462	220	180	225	154
Duluth	178	131	59	91	38	67
Indianapolis	15	16	4	6	22	27
Kansas City	100	49	47	17	38	81
Milwaukee	2	4	7	—	—	—
Minneapolis	438	198	90	68	221	212
Omaha	—	2	2	—	34	12
Peoria	5	—	6	6	14	23
Sioux City	2	—	—	2	4	2
St. Joseph	2	—	2	—	—	—
St. Louis	33	6	8	28	43	50
Toledo	72	35	24	73	442	110
Totals	1,494	903	469	471	1,081	738
Last year	807	502	838	556	801	739
CCC-owned stocks of soybeans in Chicago	1,136	1,136	1,136	1,136	1,136	1,136
Total Chicago soybean stocks	12,462	12,519	12,393	11,911	11,785	11,641

TERMINAL STOCKS. Agricultural Marketing Service's commercial grain stocks reports (1,000 bu.).

	Feb. 2	Feb. 9	Feb. 16	Feb. 24
U. S. soybeans in store and afloat at domestic markets[1]				
Atlantic Coast	7,797	7,323	6,710	6,656
Gulf Coast	2,861	2,433	2,208	2,914
Northwestern	4,934	5,093	5,181	5,298
Lower Lake	14,917	14,627	13,801	13,911
East Central	8,406	7,935	7,728	7,410
West Central and Southwestern	4,827	4,686	4,480	3,604
Total current week	43,742	42,097	40,108	39,793
Total, year ago	39,658	36,509	35,031	33,967
U. S. soybeans in store and afloat at Canadian markets				
Total, current week	12	69	27	462
Total, year ago*	454	419	382	338
Total stocks in above positions				
Current week	43,754	42,166	40,135	40,255
Year ago	40,112	36,928	35,413	34,305

* Revised. [1] Includes all soybeans in public elevators, including government-owned stocks, at 45 principal markets. Does not include stocks in processing mills.

Primary receipts (1,000 bu.) of soybeans at important interior points for week ending:

	Jan. 29	Feb. 5	Feb. 12	Feb. 19
Chicago	187	112	66	70
Duluth	140	146	96	213
Indianapolis	35	14	10	4
Kansas City	93	59	50	24
Milwaukee	.....	2	.....	.....
Minneapolis	230	232	200	160
Omaha	5	9	2	2
Peoria	4	9	3	17
Sioux City	2	2	2	.....
St. Louis	63	52	20	2
Toledo	141	88	70	30
Wichita	.....	4	.....	.....
Totals	900	729	519	522
Last year	571	751	548	625
CCC-owned stocks of soybeans in Chicago	1,136	1,136	1,136	1,136
Total Chicago soybeans stocks	11,316*	11,046	10,863	10,382

* Includes 42,000 domestic soybeans afloat.

PROCESSING OPERATIONS. Reported by Bureau of the Census for December 1959 and January 1960.

Primary products except crude oil at crude oil mill locations: Production, shipments and transfers, and stock, January 1960-December 1959 (1,000 tons)

	Production		Shipments and transfers		Stocks end of month	
	January 1960	December 1959	January 1960	December 1959	Jan. 31, 1960	Dec. 31, 1959
Soybean:						
Cake and meal	774.9	776.8	743.0	790.0	95.2	63.3
Millfeed (hull meal)	10.8	11.6	10.2	11.5	3.4	2.8

Soybeans: Net receipts, crushings, and stocks at oil mills, by states, January 1960-December 1959 (1,000 tons)

	Net receipts at mills[1]		Crushed or used		Stocks at mills	
	January 1960	December 1959	January 1960	December 1959	Jan. 31, 1960	Dec. 31, 1959
U. S.	661.8	*835.9	1,016.8	1,013.7	2,674.0	*3,029.0
Arkansas	9.2	16.5	25.7	28.8	114.9	131.4
Illinois	231.1	221.8	301.7	332.4	532.3	602.9
Indiana	55.3	49.1	80.4	93.1	[2]	[2]
Iowa	118.8	135.8	164.1	159.3	428.1	473.4
Minnesota	74.7	96.9	76.9	85.1	142.7	144.9
Mississippi	6.4	39.1	33.4	30.6	188.5	215.5
Missouri	9.9	19.2	[2]	[2]	149.5	[2]
Nebraska	[2]	[2]	[2]	[2]	[2]	[2]
North Carolina	7.6	52.6	7.9	11.0	83.7	84.0
Ohio	37.9	40.9	87.4	80.3	287.0	336.5
Tennessee	42.0	68.7	99.3	77.1	230.4	287.8
All other	68.9	*95.3	140.0	116.0	516.9	*752.6

* Revised. Note: Detail figures may not add to totals because of independent rounding. [1] Net receipts for each state are derived from the quantity of beans crushed and net change in stocks. [2] Included in "All other" to avoid disclosure of figures for individual companies.

Soybean products: Production and stocks at oil mill locations, by states, January 1960-December 1959

	Crude oil (millions of pounds)				Cake and meal (thousands of tons)[1]			
	Production		Stocks		Production		Stocks	
	January 1960	December 1959	Jan. 31, 1960	Dec. 31, 1959	January 1960	December 1959	Jan. 31, 1960	Dec. 31, 1959
U. S.	370.5	369.2	168.6	138.6	785.7	788.4	98.6	66.1
Arkansas	9.3	9.8	1.6	2.1	19.9	21.6	5.5	5.4
Illinois	113.5	125.2	59.4	46.9	226.8	254.4	24.0	18.0
Indiana	30.1	34.5	[2]	[2]	62.5	73.3	[2]	[2]
Iowa	58.9	56.8	20.8	16.0	131.3	126.6	17.1	11.9
Minnesota	26.6	29.5	24.6	24.9	58.4	65.8	5.7	3.6
Mississippi	12.1	11.4	4.0	2.1	25.5	24.3	3.1	1.9
Missouri	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
Nebraska	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
N. Carolina	2.2	3.4	[2]	[2]	6.2	8.6	[2]	0.3
Ohio	32.7	30.5	8.8	8.5	67.9	64.2	9.0	4.2
Tennessee	35.7	27.6	7.7	4.1	76.1	58.5	10.5	5.1
All other	49.4	40.5	41.7	34.0	111.1	91.1	23.7	15.7

Note: Detail figures may not add to totals because of independent rounding. [1] Includes millfeed (hull meal). [2] Included in "All other" to avoid discolsure of figures for individual companies.

OILSEED MEALS. Production, stocks, foreign trade, and domestic disappearance October-December 1958 and 1959 (1,000 tons). Agricultural Marketing Service.

	Stocks Oct. 1[1]	Production	Imports	Exports	Domestic disappearance	Stocks Dec. 31[1]
	October-December 1959					
Soybean	58.5	2,499.5	0	256.0	2,185.9	66.1
Cottonseed	97.0	1,014.8	11.0	91.9	920.5	110.4
Linseed	33.3	119.5	1.1	41.7	71.1	41.1
Copra	—	33.2	1.2	[3]	34.4	—
Peanut	1.8	15.5	0	[3]	15.7	1.6
Total	190.6	3,632.5	13.3	389.6	3,227.6	219.2
	October-December 1958					
Soybean	48.1	2,374.3	0	146.3	2,223.3	52.8
Cottonseed	71.2	869.3	37.5	4.2	895.3	78.5
Linseed	26.3	126.9	0.7	9.4	134.8	9.7
Copra	0.6	26.8	12.3	[3]	39.7	—
Peanut	1.5	18.4	0	[3]	17.1	2.8
Total	147.7	3,415.7	50.5	159.9	3,310.2	143.8

[1] Stocks at processing plants only.

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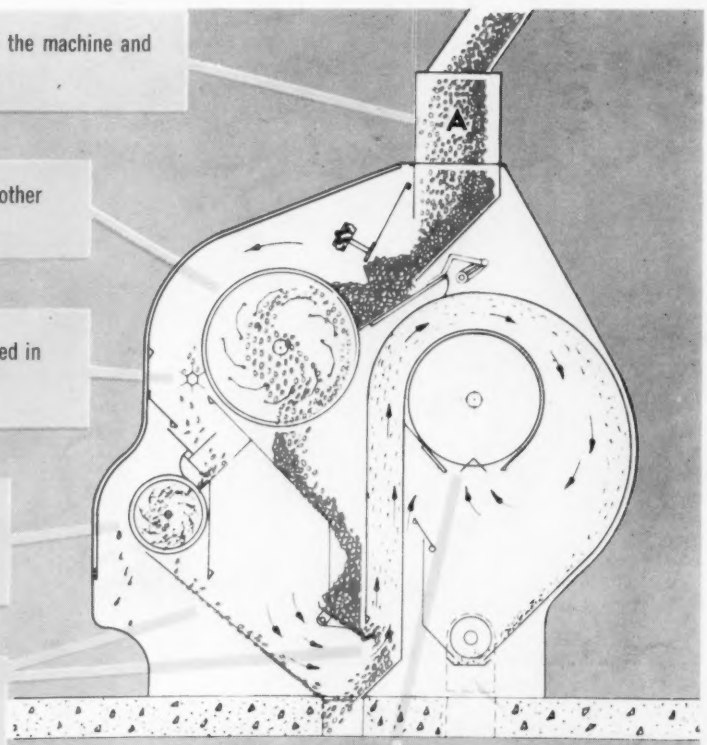

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